6: Government of Syria-IG-4 (no date) 1952 MD1 Syria MD1

REPORT ON JAZIRAH

101 Geographically, Jazirah, i.e., "the Island", is that strip of territory lying between the rivers Dijla and Euphrates, but for the purpose of this report, the term Jazirah is understood in its administrative meaning as a Mohafaza of Syria, and will be studied as such.

AREA OF JAZIRAH AND ITS CULTIVABLE LANDS

The "Statistical Abstract of Syria" for 1950 gives the total area of Jazirah as 2,217,000 hectares divided between the Mohafaza center, i.e., Hassakeh, Qamishli, and Dijla, in the following proportion:

Mohafaza Center	1,525,000 hectares
Qada of Qamishli	392,000 hectares
Qada of Dijla	300,000 hectares

311 Of this total area, according to the same source, 444,266 hectares were cultivated in 1948-49, and 1,701,284 hectares were cultivable but uncultivated, while the uncultivable lands were only 71,450 hectares.

This terminology of cultivable and uncultivable is greatly misleading. If by cultivable is meant the lands which are not rocky or mountainous or forested, the terminology is right though it loses its economic meaning. But if by it is meant lands which can be planted and rendered productive to show some profit, then other factors have to be considered, and the productive "cultivable" area of Jazirah is greatly reduced.

132 The first of these factors is the amount of rainfall. It is really astonishing that the Syrian Government has not deemed it necessary to establish agricultural stations in different regions of Jazirah to record at least the amount of rainfall in the different localities. The only such station is at Hassakeh which is not primarily a wheat growing district and the mean annual rainfall over a period of nine years is less than 300 mm. This average is less than the minimum required for successful rain-fed cultivation.

I. The Mohafaza Center

311
312 Therefore about 80% of the 1,525,000 hectares mentioned as cultivable in the Mohafaza Center are in fact uncultivable unless

irrigated, and the Jagjag and the Khabur could never irrigate such 311
an area. Irrigation is the second factor involved in determining 3121
whether the land is cultivable or not.

II. Qada of Dijla

Turning to the Qada of Dijla, we find that the entire region 1321
has sufficient rainfall, two rivers and many springs in the villages. 133
In fact, the abundance of rainfall in the northeastern part of the
Qada known as Jazirat ibn Amr, makes the growing of summer crops [241]
hazardous because the hot, dry period is too short.

The lower part of the Qada, from Tal Koshak to Dāmir Kapu, is similar to the Qada of Qamishli. The land is flat and precipitation, though relatively abundant, does not compare with the more mountainous regions of Dijla.

III. Qada of Qamishli

The Qada of Qamishli with the lower part of Dijla, extends 624
from Tal Koshak on the Iraki border, comprising the cities of 311
Qamishli, Amuda, Derbassiya, to Ras el Ain on the Khabur which
belongs administratively to Hassakeh. This region, some 200 kms.
in length along the railway line and the Turkish border, is the best
developed and most productive of the Jazirah.

In point of cultivability, it is divided into two parts: 311

1. A region bounded by the railway and a line running about forty kms. south and parallel to it, from the river Rad to Tal Brak to Tal Tamr on the Khabur.
2. The region south of this fictitious line.

This division is based on the amount of rainfall and the experi- 311
ence of farmers during the last twelve years. It is certain that the
further one goes from the Turkish mountains, the less is the rainfall. [1321]
That is why Tal Brak, about 40 kms. south of Qamishli, is con- 241
sidered the last profitable area for rain-fed farming. In the last few
years when tractor cultivation expanded greatly and lands became
scarce, new farmers cultivated the lands south of the parallel line
down to Hassakeh and to a point about 40 kms. north of Rakka, and
learned at their own expense that it does not pay unless the crop is
barley and is carried on as a sideline to a principal enterprise in the
northern regions.

A vast area lies south of the Rad to the Iraki border toward the 311
Sinjar Mountains. Farmers have been prevented from cultivating 241
[179]

[179] it because of bloody disputes between the Shammar and Tay tribes.
311 The land is poorer than in the north and the rainfall is much scarcer.
241 Farmers who managed to plant barley on the fringes of the disputed
182 land in the bad year of 1951 lost heavily. It is improbable that an average year would give much hope of profit.

Ras el Ain, though on the railway line, has less rainfall than Kamishli, Amuda, or Dirbassiya because the mountains recede north into Turkey. Dry farming is profitable less than 20 kms. south of Ras el Ain.

IV. The Khabur Valley

123 The Khabur river, though rising in Turkey, is fed by springs in Ras el Ain and flows southward for about 150 kms. within the Jazirah before it enters the Mohafaza of the Euphrates below Markada.

241 For about 20-30 kms. below Ras el Ain, the land is used for
311 cereals, mainly barley, with varying degrees of success. But south of this area and down to Hassakeh, dry cultivation becomes risky. South of Hassakeh and to the east and west, dry cultivation becomes entirely out of the question because rainfall, already insufficient at Hassakeh, falls off sharply.

312 The inadequate rainfall is offset to a certain extent by the possibility of irrigation from the Khabur. Traces of old dams are apparent in several places, and canals which carried the waters from the dams are visible. History and legend leave no doubt that the valley was much more extensively exploited in former times than it is now.

312 Recently, when the price of rice rose during the War, farmers
406 from the cities of Jazirah in search of irrigated land, began renting lands along the Khabur and installing motors and pumps. The necessary outlay of capital for any project of adequate size was substantial, not less thanLS 150,000, and the price of rice fell after 1946, so that perhaps not more than fifty irrigation projects existed up to 1949. It remained for the cotton boom of 1951 to boost this number to around 200 pumps.

The average size of pumps is 8" and the area irrigated by a pump of this size is around 500 dunums (125 acres). On some
312 projects, where land is available, this area for summer crops is
241 supplemented by an area twice this size in wheat and barley.
242 But lands on both sides of the river rise steeply and rarely can an owner of an irrigation project find enough lands to use the pumps

full time winter and summer. This is one of the reasons why most 812
projects on the Khabur have been failures. The overhead costs are 241
very heavy in relation to the land available. 242

The Government has an irrigation project partly in operation 812
which will irrigate when completed an area of about 100,000 dunums 653
(25,000 acres). Other projects are under study but their execution will be postponed indefinitely since the Government lacks the necessary capital.

To summarize, it would appear that not only all cultivable 311
lands in Jazirah are already cultivated, but that farmers, in search of lands, have started using marginal lands with insufficient rainfall, and unless the price of cereals keeps at the level of last year there will follow in the coming two years a gradual decrease in the area planted, with heavy losses to individual farmers.

POPULATION OF JAZIRAH

During Turkish rule and up to the French occupation, Jazirah 311
was a wasteland controlled by Bedouin tribes whose submission to 619
the Turkish law was nominal.

I. The Arab Tribes

The tribes, dominated by Shammar, ruled the land and spoiled 619
it, frustrating all attempts at agriculture. They lived on sheep 231
and camel breeding and charged tribute from merchants for protec- 233
tion, each tribe within its boundaries. Moslem and Christian 428
families from Mardin and Nisibin owned lands around what is now 423
Kamishli, Amuda and Dirbassiya, and they traded with the tribes, buying their wool, samneh, and hides and supplying them with their needs and credit. The ownership of land for agriculture seems to have been incidental to the commercial activities of these families.

The tribal boundaries established during the Ottoman rule are still effective. Shammar claims the right of grazing from the Iraqi border at Tal Koshak to Tal Alu and south to Fadghami on the Khabur. There is another small concentration of a Shammar branch around Derbassiya known as Shammar Ezzor.

The neighbor of Shammar to the west is the Tay tribe. Its lands extend from Kubur el Bid and Kamishli south to Tal Brak. The tribe took to agriculture relatively early and in its area are some of the best lands of Jazirah.

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CROPS AND AGRICULTURE IN JAZIRAH

I. Dry Farming

Dry farming is by far the most important activity of Jazirah. 241
The first tractor and combine were introduced in 1936 by Shahine 311
Bey Maluf of Zahleh. Before that time agriculture was the business of the peasants. The town inhabitants of Jazirah took no interest in it. The area cultivated was restricted to a few kilometers south of the railway line in what is called the Old Villages. The political troubles in 1936-37 and the low prices of wheat and barley before the War did not encourage capitalists inside Syria to invest their money in Jazirah. Furthermore, agricultural machinery was new to most people who did not understand its economics or how to run it.

a. Expansion in the Use of Machinery 1936-1952

The War doubled the price of wheat in its second year. The 407
crop of 1940 was sold for LS 50-55 a ton at Aleppo. The French 429
bought it for LS 120 in 1941. The Office des Cereales Panifiables (O. C. P.) fixed the price at LS 350 in 1943. During these years the dollar was available at the official rate of LS 2. 20 and importation of machinery from the U. S. was possible. The number of tractors increased to about 60 in the winter of 1943.

The crop of 1943 was exceptionally good and the O. C. P. imported some 50 tractors and a similar number of combines which reached Jazirah during the harvest season. [illegible] machines were first rented to the farmers and then sold to them. [illegible]hey represented the first large-scale importation of machinery to Jazirah.

Importation of machinery in the following two years became difficult as a result both of limited availability and of dollar shortage. But by the end of the War dollars became again available at the official rate and large numbers of tractors were imported in 1945 and 1946. The importation of agricultural machinery has become a steady and continuous flow in spite of the sharp rise in the dollar rates and the price of wheat, though below 1943, still makes large-scale exploitation profitable. Recently the Government through 654
the Agricultural Bank has helped the farmers import and buy on 452

40 installments some 200 tractors of which the share for Jazirah was 71.
439 This brings the number of tractors and combines to about 400 and 300,
[654 respectively.

412] It appears that the present number of tractors and combines fulfills the demands of the Jazirah if no new region such as the Rad is
407 opened for cultivation. This is demonstrated by the fall in the rent
427 of agricultural machinery, for whereas rent of the combine cost 33% of the crop in 1936 and between 22-25% from 1940 to 1948, the charge dropped to less than 20% in 1949 and 1950 and to 15% in 1952. This last share leaves a moderate and reasonable profit to the combine owner and it will not be possible for him to reduce prices greatly.

The same is true of tractor rents. The average charge for disc plowing a dunum at present is LS .90-1.10 in the region of Qamishli. This is a competitive charge and cannot be much reduced.

Therefore, the conclusionis that the number of agricultural machines in Jazirah is likely to remain stable with importation every year to replace those machines which become obsolete.

b. Expansion in the Area Cultivated

● 311 The first regions to be tilled by tractors in Jazirah were Qamishli, Amuda and Dirbassiya. When no more lands were available around them farmers after 1946 went east to Tal Koshak on the border of Iraq.

After 1949 all the region from Tal Koshak to Dirbassiya became cultivated and farmers had to move to less productive areas around the Rad, south of Tel Brak, and in Ras el Rin. At the present time, taking Tal Koshak on the east and 30 kilometers west of Dirbassiya as the western boundary and south to the Rad and to Hassakeh, there is not a single patch uncultivated on a two year basis. In the first two years the region between Ras el Ain and Rakka was opened for cultivation by Asfar and Najjar family. This year the first crop grown on lands midway between the two towns appeared. The yield of barley was 5 to 6 times the amount planted. Around Qamishli the barley yield was 10 to 12.

311 The region of Deirik and Ain Divar or Jasiratibn Amr was long
491 neglected despite its fertility because of impossible communications. No roads existed and the abundant rainfall stopped all transport for six months of the year. Within the last two years the Government

has started the construction of a road which is not yet finished, but 311
which permits trucks to reach Deirik in all seasons. Farmers flowed [166]
into the region following the opening of the road and began populat- 491
ing it. The present Minister of National Economy, Munir Diab, and
Mr. Amin Nazif, formerly Secretary General of the Ministry of ag-
riculture, own lands in the region.

c. Volume of Seeds and Crops

The main dry farming crop in Jazirah is wheat with "black" bar- 242
ley a poor second. It is estimated that about 50-60,000 tons of wheat 432
are planted every year and some five thousand tons of barley. The average yield of wheat is 6-7 times per unit planted which gives a yearly crop of some 350-400,000 tons, of this quantity, 85-100,000 tons are needed for local consumption and for seed. This leaves about 250-300,000 tons available for export in an average year. Calculating this quantity at the price of LS 170 in the field free of all expenses, it means a revenue of LS 51 million per year to Jazirah with seeds and provisions already accounted for or about LS 250 per capita.

d. Difficulties in the Way of Agricultural Development

Agriculture in Jazirah suffers from many obstacles and hindrances 185
which the Government can remedy with some careful thought and 654
planning. The difficulties connected with land ownership and tenure and with credit and transport will be discussed separately, but other obstacles will be mentioned here below:

1. There is no agricultural station in the important wheat growing centers of Jazirah to record the amount of rainfall and the mean temperatures to guide the farmers.

2. The Jazirah is subject in most years to a heat wave during the [132]
month of May which destroys 25-35% of the crop. The only remedy is to introduce strains of wheat which mature before the period of the heat wave. Although the problem and the remedy are known to the Government, no effort has yet been made either to import new

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II. Land Tenure for the Tractor Owner

The tractor owner gets better advantages when he rents land. 427 He also pays a percentage of the crop. It used to be 5-6% with the obligation to plant a "shkara" for the landowner. The "Shkara" is a certain amount of seed which the landowner provides and which the tenant agrees to plant by his machines and to harvest with his combine free of charge. The "shkara" is proportional to the area of land rented. It varies between 10-20 sacks of wheat. In the last few years when demand for land became great the rents rose to 10-12% with the habitual "shkara". Usually the rental contracts are for three years. They rarely exceed this period.

III. Land Tenure Along the Khabur

Along the Khabur rents are different in manner. There, the landowner provides not only the land but also the water for irrigation and half the seeds. In return he receives half the crop. The peasant furnishes his labor for plowing, seeding caring for the irrigation canals, irrigation and harvesting.

Rents for pump irrigation were between 7-10% until 1951. The cotton rush increased the rents for strips of land near the river to 15-20% but the failure of the crop reduced the rush for land and the rent is down again to around 10%.

THE PROBLEM OF CREDIT IN JAZIRAH

The rapid economic advance of Jazirah in the last years is nothing less than amazing. 811 In 1941, in the region of Qamishli, for example, the farthest village cultivated was less than 20 kilometers south of the city. All the land beyond was pasture for the Bedouin. East of Kubur el Bid to Tal Koshak, a distance of 60 kilometers, the land was similarly idle. There was not a single tractor in the region of Ras el Ain, and not a single water pump on the Khabur aside from those of the Assyrians.

Qamishli itself, the principal town of Jazirah, had no electric 861 light, no paved roads, no sewage system, and very few acceptable 865 houses to live in. The same was true in a larger measure of the other towns of Jazirah.

6: Government of Syria--36 G-4 (no date)1952 MDl Syria MDl

361 At present, agriculture extends in an unbroken line from the
811 Turkish and Iraqi borders south to the Rad and Hassakah, and west to
365 Ras el Ain and midway to Rakka. Qamishli has all the amenities of a fair-sized city with sewage, electricity, asphalted roads, running water, places of amusement, and modern office buildings and houses. The other towns of Jazirah show similar progress but in a smaller way.

454 All this development could not have been achieved without extensive use of capital. It was stated that the original emigrants to Jazirah whether Christians or Kurds, brought very little capital with them. Whatever they have now was made in Jazirah and not brought from outside.

I. Credit to the Bedouin and Kurd

452 The nearest commercial market to Jazirah where credit was
438 available was Aleppo. Aleppo merchants first provided goods shipped to the towns of Jazirah to be smuggled into Turkey. And Jazirah merchants working on a commission or partnership basis made good profits. Some of them specialized in lending money to the Bedouins and Kurds and for them, also, credit was available at Aleppo. They borrowed at an interest rate of 9% and lent at 35-50%. Most of them, however, did not lend money outright as a general practice, but sold goods and especially textiles, coffee and sugar to the farmer against bills maturing at harvest time. The exorbitant interest was added over the price of the goods, and the peasant accepted it as a somewhat higher price and did not consider it as interest. Theis system still prevails at the present time.

II. Credit to the Machinery Owner

452 With the expansion of agriculture and the extensive use of agricultural machinery, credit in much larger amounts became necessary. The farmer using machinery needed two kinds of credit. He needed credit to pay for his machines, and seasonal credit to cover a part of his expenses for wages, seed, fuel, and general expenditures.

In the first years of the War, dealers in agricultural machinery supplied a part of the need by selling on an installment basis for a period of 20 months. But between 1943 and 1948 they demanded cash payment before delivery. In the last four years, they have renewed their credit facilities.

6; Government of Syria--48 G-4 (no date)1952 MD1 Syria MD1

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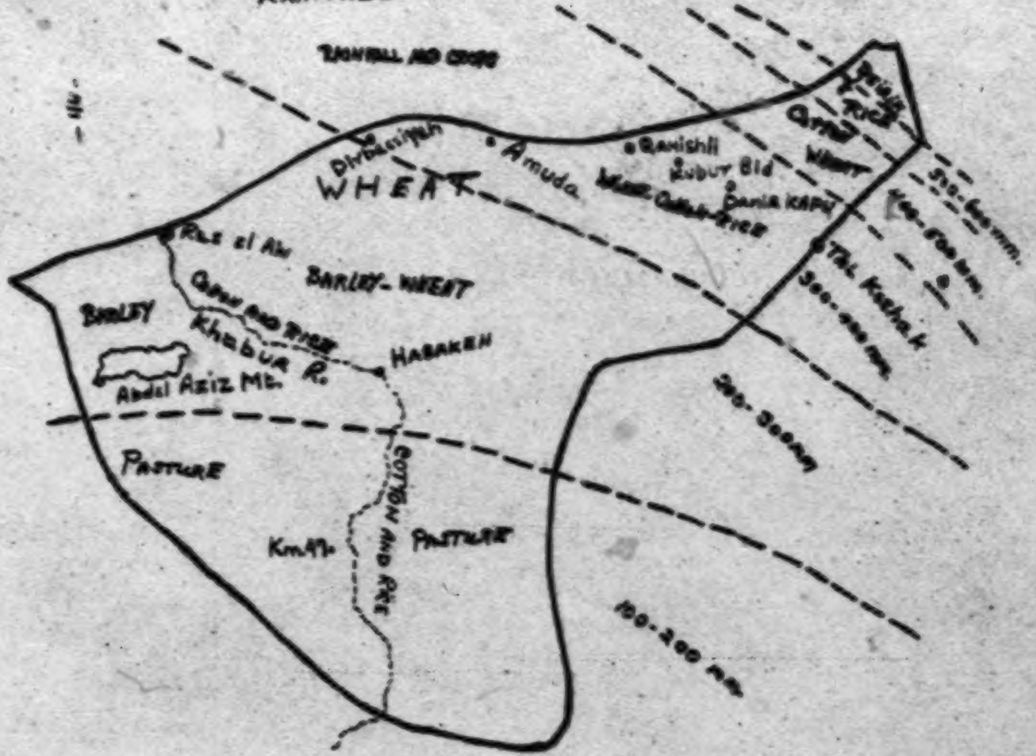
RAINFALL AND CROP MAP OF JAZIRAH



RAINFALL AND CROPS
WHEAT
Dirbasiyah
Amuda
Qamishli
Qubur Bid
Dania Kapu
WHEAT-COTTON-RICE
COTTON
WHEAT
RICE
Tal Kochak
Ras el Ain
BARLEY-WHEAT
BARLEY
COTTON AND RICE
Khabur R.
HABAKEH
Abdel Aziz Mt.
PASTURE
COTTON AND RICE
PASTURE
Km 92
500-600 mm.
400-500 mm.
300-400 mm.
200-300 mm.
100-200 mm.

7: Lewis S-5 (ca. 1940-45) 1948 MD1 Syria MD1

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[311]

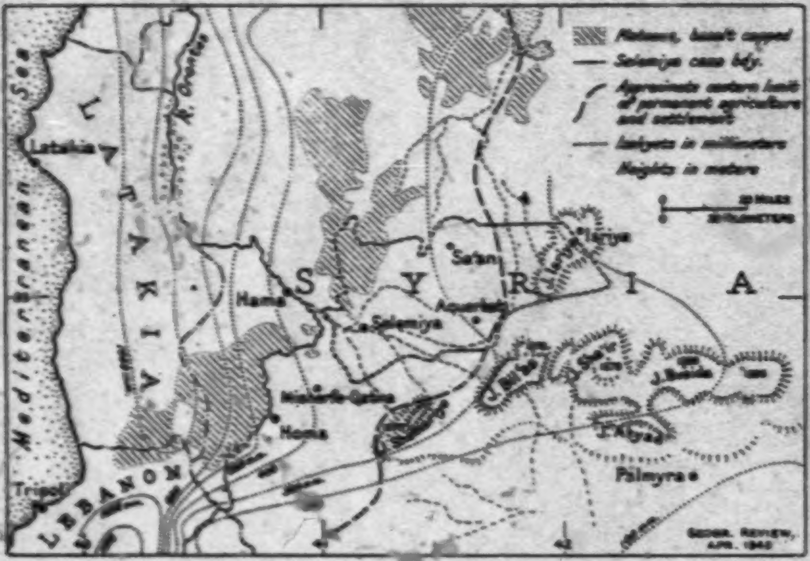
Plateaus, basalt capped
Selemiya caza bdy.
Approximate eastern limit of permanent agriculture and settlement
Isohyets in millimeters
Heights in meters
Mediterranean Sea
Latakia
LATAKIA
R. Orontes
SYRIA
Hama
Selemiya
Sa'an
Homs
Tripoli
LEBANON
Palmyra
J. Bil'as
Geogr. Review, Apr. 1948

Fig. 1—The Selemiya area in its general setting. The hills are frequently given the collective name of Jebel Bil'as. Isohyets are from Charles Combier: Aperçu sur les climats de la Syrie et du Liban, avec carte au millionième des pluies et vents, Délégation Générale de France au Levant, Beirut, 1945. Spelling of the place names here and in the text in general follows the (British) Permanent Committee on Geographical Names.

of the hills and the Eocene-Oligocene marl of the plain. The limestones are predominantly pervious dolomitic limestones, separated by more or less impervious beds of flint and marl. Winter rainfall runs off in the wadis or soaks into the ground and either is soon discharged at a lower level by temporary springs or seeps slowly toward the plain, assisted by the dip of the strata.

The marl of the plain is in its unaltered state impermeable, but usually it has been affected to a considerable depth by the percolation of water through cracks and fissures. In this way calcium carbonate and silica are deposited to depths of as much as 50 feet, and the whole character of the rock is altered.[1] It becomes crumbly, permeable, and water-bearing. Above this layer of rock a hardpan develops, ranging in thickness from a few inches to four feet, which is due to the concentration by capillary action of calcium carbonate and silica.

The region is one where the desert merges into the sown. The rainfall

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[1] L. Dubertret: Lithological Map of the Eastern Border of the Mediterranean, 1:500,000, with notes translated by W. B. Fish [i.e. Fisher], Fighting French Delegation General in the Levant, Geological Section, Beirut, 1943.

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THE REGION IS ONE WHERE DESERT MERGES INTO THE SOWN. THE RAINFALL
regimen is Mediterranean in type, practically all the precipitation falling in
132 winter, the summer being characterized by drought and great heat. In the
east the rainfall is sporadic and unreliable and in most years is less in total
quantity than in the west. Selemiya has a mean annual rainfall of 344 milli-
meters (13.5 inches). On the west-facing slopes of Jebel Bil'as rainfall is
relatively heavy, though highly variable, and it permits tree growth. The
311 present eastern limit of close agricultural settlement and of permanent un-
irrigated cultivation is near the 200-millimeter isohyet;[2] it was approximately
the same in Romano-Byzantine times. Any further extension of agriculture
to the east would mean great risk of crop failure and of increased soil erosion
by wind and water.

134 In the cultivated west the soil is heavy and clayey, but farther to the east
it is light and friable, with a high sand content and practically no humus.
In Jebel Bil'as the soil is intermediate between these two types, liable to
erosion by wind in summer and water in winter.

137 Over the greater part of the region the two main elements in the natural
132 vegetation are low xerophilous scrub[2] and ephemeral grasses which appear
[233] in early spring and wither away in summer. The roots and rootlets of both
the permanent scrub and the annual vegetation help hold the soil in place.
In Jebel Bil'as these types of vegetation are well developed, and the hills are
favorite spring pasture grounds for the sheep of peasants and Bedouins.
Isolated trees grow in the Palmyrene ranges far to the east throughout the
area within the 200-millimeter isohyet, and even just to the east of it, in
country believed to have a mean annual rainfall of less than 200 millimeters
(7.9 inches). On the northwestern slopes of Jebel Bil'as tree growth is more
abundant. Nothing demonstrates better the positive rainfall anomaly of the
hills as compared with the arid plains to the north and south.

137 At the present time the landscape of Jebel Bil'as is at the best parklike, the trees being scattered, except in the valleys, where clumps of three or four grow together. Few trees are taller than 20 feet. The *Pistacia* genus is represented by *P. terebinthus* (probably *P. palaestina*) and *P. vera* (the pistachio tree). The wood of these two trees, hard and slow-burning, is much valued as a fuel. Scrub oak also occurs, and in wadi bottoms thick-leaved evergreens. Shrubs and herbaceous plants are scattered everywhere.

IRRIGATION

241 The long summer drought makes irrigation necessary for most crops

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113 [2] A full account is given by M. Zohary: Geobotanical Analysis of the Syrian Desert, *Palestine Journ. of Botany*, Jerusalem Ser., Vol. 2, 1940, pp. 46-96.

175 area. The English merchants who passed through the hills in 1678 noted that
137 Jebel Bil'as was "covered with Trees, which, for the most Part, were the
small *Pistacho*'s which the *Arabs* pickle with Salt; but eaten green, are good to quench Thirst"; and in 1691 they ascended a ridge to the east of Jebel Bil'as where the tree cover is now sparse and found it "cover'd on both Sides with great plenty of Turpentine-Trees," which grew "very thick and shady," several of them "loaded with a vast Abundance of a small round Nut."[15]

233 In spring, when surface water is available and the pasture is excellent, the
● 311 hills are full of flocks; and several hundred thousand sheep, together with
some goats and camels, pasturing each year for about three months cause
[137] much damage. Bedouin and peasant shepherd families burn vegetation on
the spot, and woodcutters from Selemiya and the villages cut large amounts of the valued slow-burning pistachio wood. Vegetation has been destroyed in these ways since prehistoric times, but at certain periods the process has been quickened. Between 1914 and 1918 the Turkish authorities took great quantities of wood as fuel for the railroads. Local notables say that within living memory trees extended beyond Aquerbat; that is, several miles into the country now cultivated and treeless. The westernmost range, Jebel Shomariye, has lost all its woods, and a ridge to the east, which was "overgrown in some places" with terebinth trees in 1908,[16] is today bare. A new
435 danger to the soil of the hills has resulted from the high grain prices now
161 prevailing, the growing population pressure in the region, and the tendency
178 of Arab tribes to settle down to agriculture; for now increasing areas of
land on the western fringe of the hills are being plowed.

000 Malaria control on the plain must clearly be accompanied by soil conservation in the hills, and, ideally, both should be part of a larger scheme of regional rehabilitation. Such a scheme would cover, among other matters, irrigation, malaria control, vegetation conservation, farming practices, and grazing rights. It would mean radical changes in the region; it would require a large capital outlay; and it would necessitate government action of a scale and vigor practically unknown in Syria. It is impossible to discuss here whether such a scheme would be economically justifiable, or possible within the present social and political framework. One can only emphasize that some such comprehensive action must eventually be taken if the problems of the region are to be solved.

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113 [15] "An Extract of the Journals" (*op. cit.*), pp. 132 and 143 [Miscellanea Curiosa, pp. 123 and 137–138].

[16] Alois Musil: Palmyrena, *Amer. Geogr. Soc. Oriental Explorations and Studies No.* 4, 1928, p. 44.

Farther east there lies another belt of highlands. In the far 133 north it takes the form first of the Kurd Dagh hills, then of a plateau and a series of low ranges, south of which lies the range of Anti-Lebanon, facing Lebanon across the Biqa', and rising some 9,000 ft. above sea-level. South of Anti-Lebanon is Mount Hermon with its many valleys and its three peaks, the highest of which is over 9,000 ft. high. From Hermon the land drops into the Hauran plateau ; south of it is the tableland of Transjordan, which itself ends in the steppe country of the northern Hejaz.

The northern plateau slopes eastwards until it reaches the 133 valley of the Euphrates flowing south-east. The eastward 311 slopes are in part cultivable land, but in part semi-desert and steppe, known sometimes as the 'Little Desert' to distinguish it from the Syrian Desert to the south of it. Around and across the Euphrates is a district known as the Jazirah, which is geographically part of Iraq but of which a portion lies within the political frontiers of the Levant States. It is a district of stony hills and plains, but fertile in the river valleys, those of the Euphrates itself and of its tributaries, the Balikh and the Khabur.

East of the Anti-Lebanon the country is somewhat different. There is no plateau sloping gently to a river valley, but the eastern flanks of the mountains lead down to a barren steppe, formed of stone and gravel, with sand-dunes and coarse vegetation : the Syrian Desert. In places the Desert comes up almost to the foot of the inner range ; but in others it is held back by areas of cultivable land. One such is the Ghutah, the fertile land around Damascus, well wooded and well watered by its streams. To the south of it, but separated from it by a plain of lava, lies another cultivable region, the Hauran, a large basalt plateau open to rain-clouds coming from the Mediterranean through the Esdraelon Gap. In the east this plain rises into the hilly but fertile district of Jebel Druze, of which the peaks are 6,000 ft. above sea-level. South of the Jebel Druze, the highlands of Transjordan slope eastwards and die away in isolated hills.

While the general climatic régime is similar throughout, 132 there is great variety of temperature and rainfall in consequence of the sharp differences of relief and position. In all parts the rainy season is from October or November to April or May ; but the amount of rainfall varies greatly from one

11: Hourani S-4 (no date) 1946 MD1 Syria MDI

132 region to another. On some mountain heights it is over 40 in., while in the desert areas it sinks almost to nothing. The temperature also varies greatly, in general increasing from west to east and to a lesser extent from north to
132 south. The differences of rainfall and temperature, together
311 with such other factors as the presence or absence of rivers
241 and springs, give rise to great differences in fertility and vegetation. The coastal regions have a Mediterranean climate, and are often well watered both by rainfall and by rivers; they are suitable for cereals, tobacco and many kinds of fruit. The seaward slopes of the maritime ranges have a more temperate climate, and terraces of cultivable soil on which olive trees and vines can grow; but the eastern slopes are more barren. The central depression has a sub-tropical climate. Parts of it are well watered by rivers and are fertile. In the Jordan Valley, fruits can be cultivated, and cereals in the more northern parts of the inner depression. Much of the inner range is dry and barren; but on the plateaux of the north and of Transjordan there is sufficient rainfall to make possible the cultivation of cereals. This is true also of the Hauran and Jebel Druze. The Ghutah is suitable with irrigation for the growing of fruits of many kinds. East of the inner range the rainfall becomes scantier, the heat more intense, and the land less fertile; until finally it becomes too arid to be suitable for anything but pasturage. But across the Euphrates conditions change once more, and it is possible to grow cereals in the river valleys of the Jazirah.

3

131 The nature of Syrian history has been deeply affected by the structure and position of the land. It is largely a history of economic, political and other movements affecting the whole area of which Syria forms a part. To those movements Syria has served at times as a starting-point, at others as a terminus or a bridge.

439 The first of the movements has been that of world trade. Syria has almost always been an important link in the trade-routes which connect the Mediterranean world with India and the Far East; and its own products, oil, grain, textiles and metal work, have at times found a market in the Western world. Another and more specialized trade has been that with

11: Hourani S-4 (no date) 1946 MD1 Syria MD1

V. THE WESTERNIZATION OF SOCIETY

1

THE first and most obvious sign of social change is the 161 growth in the population of the French Mandated Territories in the last four generations. For some centuries previous to 1800 the population had been steadily declining. In the course of the nineteenth century it began to increase; by 1914 it may have been in the neighbourhood of two and a half millions. Since then it has grown ever faster, because of the abolition of conscription, the decline in emigration, the rise in the standard of living and the improvement in medical and sanitary services. To-day the total population is nearly four millions.

The distribution of the population between the different 162 provinces of the country is as follows:

Syria:	Province of Damascus	531,267
	„ „ Aleppo	752,196
	„ „ Homs	182,312
	„ „ Hama	137,882
	„ „ the Hauran	108,603
	„ „ the Euphrates	218,667
	„ „ the Jazirah	103,514
	„ „ Latakia	371,880
	„ „ Jebel Druze	70,706
	Total	2,477,027[1]
Lebanon:	Province of Beirut	232,000
	„ „ Mount Lebanon	278,000
	„ „ Northern Lebanon	241,000
	„ „ Southern Lebanon	198,000
	„ „ the Biqa'	167,000
	Total	1,116,000[2]

2

Two-thirds of this population live in villages and are 31 dependent upon agricultural occupations. The total area of the country is some 58,000 square miles; but only about 10–15 per cent of it is cultivated. An equal area could however be brought under cultivation if swamps were drained, barren wastes irrigated, and the margin of agriculture pushed eastwards into the deserts.

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[1] Ministère des Affaires Etrangères, *Rapport à la Société des Nations sur la situation de la Syrie et du Liban, 1938* (Paris, 1939), pp. 220-1. These figures exclude the Beduin population, who number over half a million, and also the population of Alexandretta, which was ceded to Turkey in 1939 (see Chapter XI). They are not to be accepted as more than a rough approximation. An estimate for 1944 gave the population of Syria as 2,800,000 (excluding the Beduin).

[2] Figures for 1942.

795 648 the standard of living and education among the Alawis and to develop their corporate consciousness; and who believe that if this is to be done the Alawis must be given a separate administration specially adapted to their needs and under benevolent foreign tutelage. There are others who admit the importance of these tasks but who emphasize that it is equally necessary to give the Alawis a consciousness of being part of the Arab nation as an alternative to sectarianism and to a paralysing localism. Among the Alawis themselves, one party adheres to the former school of thought, a second to the latter, but the greater number are suspicious of all interference from outside and wish only to be left alone.

Here, as in Jebel Druze, great social and intellectual processes are beginning of which the results have yet to appear. But it will probably take longer to bring Alawi society to a point where it becomes possible to face the problem of its definitive political status.

II

● 311 167 The problem of the Jazirah, the north-eastern province of Syria, is in many ways different from that of Jebel Druze and the Alawi territory. Before the War of 1914–1918 it was largely an empty district, except for Beduin tribes and some Kurdish villages. The land was sparsely cultivated where it was cultivated at all; life was insecure and government scarcely existed. When the French occupied Syria they established a considerable measure of public security, and this increased the attraction for settlers which the Jazirah already possessed by virtue of its fertility. The French authorities encouraged the settlement of members of Christian and other minorities who had been forced to leave their dwellings in Turkey, or who preferred not to live in the predominantly Moslem parts of Syria. In the last twenty years many thousands of Armenians, Jacobites and Syrian Catholics, together with Assyrians from Iraq after the events of 1933, have moved into the province; and even larger numbers of Kurdish Moslems, dislodged from their homes in Eastern Turkey by the policy of forcible assimilation 361 adopted by the Turkish Government. The new towns of 311 Hassetche and Qamishli and new villages have been created and new crops introduced, and the district has been opened up to regular commerce. The Beduin have been controlled AND CERTAIN TRIBES AMONG THEM PERSUADED TO SETTLE ON THE LAND.

101 challenging task of fusing the positive elements of both its eastern and
178 its western heritage into a cohesive whole.

Population and Land

161 According to official estimates, Syria at the end of 1953 had a popula-
162 tion of about 3.65 million, including some 150,000 Bedouins who lead a nomadic or semi-nomadic existence. Although demographic statistics are far from adequate, it appears probable that the population has been growing at an annual rate of somewhere between 2% and 3% during the last decade. Most of the population is rural:[1] about 60% live in villages and towns of less than 10,000 inhabitants, and each of the two largest cities—Damascus, the capital, and Aleppo, the commercial center of the country—has a population close to 400,000. About 86% of the population are Moslem or belong to offshoots of the Moslem religion, and nearly all of the balance are adherents of a considerable number of Christian denominations.

161 As a country with an area of 181,337 square kilometers (72,234 square
311 miles), about three-fourths the size of the United Kingdom, Syria cannot be said to be densely populated. While less than a third of the area is cultivable, the proportion of the population to the land already under cultivation compares favorably with that of other countries in the Near and Middle East. In Syria there is one hectare[2] of cultivated land per inhabitant, or about 10% more than in Turkey and Iran, twice as much as in Greece and Iraq and eight to nine times as much as in Egypt.

311 There is still plenty of land available in Syria but water severely limits
133 its utilization. The country lies to the leeward of mountain ranges in the west and north which intercept much of the rainfall. Except for the coastal region of Latakia province, Syria is largely cut off from the rain-bearing winds of the Mediterranean by mountains, the Djebel Ansariya (Alaouit mountains) in Latakia, and, farther south, after the intervening Tripoli-Homs gap, by the twin ranges of the Lebanon and Anti-Lebanon which in turn give way to the Hermon range. Thus the area which can support rain-fed cultivation is confined to a rather narrow belt extending roughly like a crescent from the Hauran in the south northward to Aleppo and then eastward along the Turkish frontier. Fortunately for Syria, its

[1] See Annex C, p. 292.

[2] A hectare = 2.471 acres.

311 rainfall is supplemented by the water brought down from the mountains
133 by its rivers. The principal of these is the Euphrates which has its headwaters in Turkey and flows in a generally southeasterly direction across Syria into Iraq. Together with its most important tributary, the Khabour, which also rises in Turkey, it accounts for 90% of the total annual flow of all Syrian rivers. In the west the largest river is the Orontes which is fed by springs from the Lebanon and Anti-Lebanon ranges and flows northward through the marshy area known as the Ghab into Turkey. Farther south the Barada river, rising in the Anti-Lebanon, supplies life-giving water to the fertile Ghouta oasis around Damascus. In the extreme south the Yarmuk river flows along the Jordanian frontier into the Jordan river. Although the flow of these rivers is highly seasonal, it is on the effective utilization of their waters that much of the future development of Syria's agriculture depends.

Principal Regions

631 Administratively Syria is divided into nine *mohafazats* or provinces, each in charge of a *mohafez* or governor; the province is in turn divided into *qadas* or counties headed by a *kaimakam;* and the county is further subdivided into *nahiyes* or townships in charge of a *mudir*.

241 Of greater significance, however, are the principal economic regions.
438 Farthest south are the adjoining regions of the Hauran and Djebel Druze.
311 The Hauran plain, an area of rather high but apparently declining fertility, has long been known as a granary, even in Roman times. Its principal crop is wheat, but barley, maize, sorghum and pulses are also important. To the east rises the Djebel Druze, a basaltic dome, where the Druzes, a proud and independent people, eke a bare living from the pockets of fertile soil in their mountains. Here the pressure of population on the land is acute. Agricultural holdings in the Hauran and Djebel Druze are predominantly small. There is little irrigation, and annual rainfall, averaging less than 12 inches, is barely adequate for dry farming. Sharp fluctuations in rainfall frequently make farming precarious. One of the principal problems of this region is the scant supply of underground water even for drinking.

To the northwest of the Hauran lies the higher, rolling Julani plateau stretching toward the Hermon range. This stony region is suitable only for grazing and, to some extent, for orchards. To the north a narrow band

241 of cultivation leads to Damascus where semi-desert conditions prevail and
438 rainfall is generally inadequate for dry farming. Thanks to the waters of
● 311 the Barada river, however, Damascus lies in a fertile oasis, known as the Ghouta. It is pre-eminently an area of orchards and vineyards yielding olives, fruit and nuts. Vegetables, hemp and, more recently, sugar beets are also important crops and extensive dairying is carried on. Damascus, linked with the nearby Lebanese port of Beirut by road and narrow-gauge rail, is one of Syria's two leading industrial centers, the other being Aleppo. Aside from the textile factories which constitute the principal industry, Damascus has plants for the production of cement, glass, vegetable oils, soap, leather and boots and the canning of foodstuffs.

North-northeast of Damascus up to the plains of Homs the country is for the most part rugged and barren, with occasional oases. From Homs to Aleppo stretches an extensive plain which is, along with the Jezireh, the most important agricultural area in Syria. Rainfall is fairly adequate, ranging from an annual average of around 600 mm. (23.6 inches) at Homs to a little less than 400 mm. (15.7 inches) at Hama and Aleppo. The region is the site of the largest completed government irrigation scheme, the Homs-Hama irrigation network, fed from Homs lake; extensive areas are also irrigated by wells, river pumps and water wheels. Northwest of Hama lies the large marshy area known as the Ghab into which the Orontes river pours its water and which the government is just beginning to reclaim. The Homs-Hama-Aleppo area has become the center of cotton and sugar beet cultivation, and it produces roughly one-third of the country's wheat and almost one-half of its barley. West of Aleppo extensive orchards and vineyards produce olives, fruits and nuts. The landholdings of the area are generally large and for the most part cultivated by sharecroppers, who earn a bare living. Around Aleppo mechanized agriculture is developing on some scale.

Aleppo, the principal grain market and commercial center of the country, has also developed considerable industry, featuring cotton ginning and textiles, vegetable oil extraction and soap making, and cement. Homs, with its new sugar factory, a modern textile dyeing plant, several flour mills and a large number of small weaving enterprises, has also achieved some industrial importance.

West of Homs and Hama lies the province of Latakia, facing the Mediterranean. It receives the highest rainfall—up to 1,000 mm. per year—and has a subtropical climate. Its rather narrow coastal plain boasts a

341 diversified agriculture yielding tobacco, cotton, legumes, melons, olives
459 and some citrus as well as winter cereals. Its principal city, Latakia, is a
311 rapidly growing port serving as an outlet for the large agricultural output of northern Syria. The coastal plains and the mountains of the province are the country's most densely populated areas.

East of Aleppo lie two distinct agricultural regions, one the belt of rain-fed cultivation stretching along the Turkish frontier and comprising principally the province of the Jezireh, the other, the irrigated Euphrates valley. The Euphrates flows in a southeasterly direction through an arid region but the water taken from the river by hundreds of pumps makes possible extensive cultivation of cereals in the winter and cotton and other crops in the summer. Cultivation is principally by sharecroppers. Deir ez Zor is the largest city in the Euphrates valley. The Jezireh in northeastern Syria has now become the country's principal granary. Once the home of roaming, warlike Bedouins, it was pacified and thrown open to settled agriculture only during the last two decades. Beginning in the second World War, cultivation was rapidly expanded until now the Jezireh produces almost half the country's wheat and a considerable amount of barley as well. Dry farming predominates, with cultivation extending from Hassetche, the capital of the province, where rainfall is marginal, northward to the Turkish border where rainfall is heavy and the region's principal commercial center, the bustling town of Kamichliye, is located. In the valleys of the Khabour and Jagh-Jagh rivers, however, there is some irrigated cultivation, with cotton and rice as the principal crops. In this sparsely settled region, dry farming is carried on in large holdings—in some cases more than 100,000 hectares—and with fleets of tractors and self-propelled combines. The principal problem of the region is transport, for it is served inadequately by a railway running in and out of Turkish territory and by roads and tracks which are impassable for part of the year.

South and southwest of the Euphrates and extending toward Hama, Homs and Damascus lies a large, roughly triangular area, the Syrian desert. This desert or steppe area, although dotted here and there by an oasis, is too arid to support cultivation. Vegetation springs up briefly following the scant winter rains and supports during this time large flocks of sheep and goats tended by Bedouin tribesmen who are also engaged in the breeding of camels. Inadequate water supplies and occasionally severe weather make serious inroads on the flocks from time to time.

454 Savings institutions are virtually non-existent. There are no special savings banks and the regular commercial banks do not consider it worth while to make a particular effort to attract savings deposits. In fact, total savings deposits in commercial banks at the end of 1953 amounted to only £S 3.5 million. No postal savings system exists, and savings in the form of insurance are negligible. This does not mean that savings do not accrue, but rather that they do not take institutional form and are invested directly, not through the intermediary of institutions or a capital market. Syrians generally prefer types of investments which are tangible and visible, such as land and buildings, and over which they can exercise some personal control. In the past the habit of putting savings into hoards of precious metals or even currency has also been deeply ingrained. There is some evidence, incapable of statistical measurement, that the relative importance of savings in the form of hoards has declined in the postwar period as opportunities for profitable investment have grown. Investment in corporate securities has greatly increased during this period, but only by limited groups of people and under conditions assuring them control over the corporate enterprise. Shares in industrial companies are bought and sold in an unorganized and very limited market.

Economic Growth

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● 311
483 One of the most noteworthy features of the Syrian economy has been its rapid growth over the last two decades, as indicated in Table 3. Agriculture and industry have both featured prominently in this development. The availability of idle land combined with the food shortages attributable to the war provided a tremendous incentive to an expansion of agricultural output. The area under cultivation, including fallow land, rose from about 1.75 million hectares in 1938 to 2.3 million in 1945 and has since continued to expand, reaching a total of around 3.65 million in 1953. The area actually planted to crops and orchards accordingly more than doubled during this entire period, rising from 1.16 million hectares to 2.44 million. By far the greatest part of the area put to the plow was dry farming land. According to official estimates, for example, the amount of land planted to winter wheat and barley increased from about 750,000 hectares in 1938 to 1.13 million in 1945 and 1.34 million in 1953, and the output of these cereals about doubled during the whole period. Following the war a considerable expansion of irrigation took place. By 1953 the irrigated area

was officially estimated at 509,000 hectares as compared with 284,000 in 241
1946. The resulting rise in the value of agricultural production was par- 311
ticularly marked, since with irrigation more valuable summer crops could 433

TABLE 3 Indicators of Economic Growth

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433
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	Prewar	1945	1947	1950	1953
Agriculture					
Cultivated area (million ha.)	1.76	2.29	—	3.09	3.67
Cropped area (million ha.)	1.16	1.51	—	2.05	2.44
Wheat					
Area (thousand ha.)	473[a]	751	843	992	1,314
Output (thousand MT)	459[a]	415	404	861[b]	962[b]
Barley					
Area (thousand ha.)	275[a]	384	365	416	428
Output (thousand MT)	290[a]	248	169	322	472
Cotton					
Area (thousand ha.)	30[a]	17.5	19.3	78.0	136.6
Output (thousand MT, ginned)	5.4[a]	4.3	5.4	35.5	47.0
Agricultural production tax (million £S)[c]	—	—	9.1	16.2	22.4
Industry—Output					
Cotton and rayon yarn (thousand MT)	1	—	—	—	9–10
Cotton and rayon cloth (million meters)	15	—	—	—	ca.100
Vegetable oils, excluding olive (thousand MT)	(negligible)	—	—	—	ca.10,000
Soap (thousand MT)	3.4	—	—	—	8.9
Fruit and vegetable preserves (thousand MT)	1.8	—	—	—	4
Cement (thousand MT)	less than 75	—	—	—	224
Matches (million boxes)	11	—	—	—	32.2
Cigarettes (MT)	416	—	—	—	1,644
Electricity (million KWH; principal utilities)	25.1	—	—	—	114.2
Financial					
Government receipts (million £S)[d]	11.5	118.3	116.2	138.9	216.7
Notes and coins in circulation (million £S)[d]	19.9	210.7	183.2	224.6	288.4
National income (million £S)	—	—	—	1,380	1,600

[a] 1934–38 average. The production figures for wheat and barley may well be somewhat overestimated.

[b] Official production figures have been revised upward in the light of the amounts marketed as revealed by the agricultural production tax returns.

[c] The proceeds of this tax, levied on produce brought to market, tend to exaggerate the rate of increase in production, but are nonetheless a good indication of trends in output.

[d] Figures are not deflated for price increases. While a reliable price index is lacking, the price level in the period 1950–53 was probably between five and seven times as high as that before the war.

● 241 311 be grown. Thus with the stimulus originally imparted by the Korean
433 war boom, cotton, which had long been grown in Syria but on a small
scale, has developed into one of the country's most valuable crops.

433 Manufacturing has expanded rapidly in the postwar period. Although the original impulse was given by the wartime shortage of manufactured goods, new factories were not for the most part established until after the war. Among the new modern factories built since then are six spinning and weaving mills, a considerable number of cotton ginneries, a dyeing plant, six vegetable oil mills, a glass factory, a cement plant and a sugar factory. The total amount of paid-up capital of manufacturing enterprises established in corporate form since the end of the war is in the neighborhood of £S 80 million. Since enterprises generally refuse to disclose their output, statistical measurement of the increase in production is extremely difficult. Very rough estimates indicate that about 9,000-10,000 metric tons of cotton and rayon yarn were produced in 1953 as compared with probably less than 1,000 tons in prewar years. The output of cloth was about 14,000 to 16,000 tons, or more than 100 million meters, as compared with perhaps 15 million meters before the war. The production of vegetable oils (other than olive oil), which was negligible before the war, amounted to around 10,000 tons, and the output of soap, at a level of about 9,000 tons, was almost three times the prewar estimate. Cement production, which was less than 75,000 tons before the war, amounted to 223,639 tons in 1953. The output of cigarettes was about four times, and that of matches three times, that of prewar years.

331 The expansion of agriculture and industry has in turn stimulated commerce, transport and construction. The construction industry in particular has witnessed a postwar boom which lifted the volume of building to a level probably twice as high as that in the years immediately preceding the war. Increasing prosperity, together with the wartime drop in building, generated a large volume of housing construction in all major cities.

434 The increase in national income since before the war has undoubtedly been very great; in real terms it may well be almost double. Unfortunately the fragmentary nature and unreliability of statistical data make even approximate estimates of national income extremely difficult. For the postwar years an unofficial estimate has been made only for 1950, when national income was put at £S 1,250 million. Some very tentative calculations made by the mission indicate that this estimate may well be too conservative. These calculations point to a rise in national income from

community has been "investment conscious" and has engaged in little 454
conspicuous spending except perhaps for housing.

Predominance of Private Enterprise

A characteristic feature of Syria's rapid economic development is that 471
it has been almost wholly due to private enterprise. In spite of frequent 654
changes in government, private enterprise has retained a buoyant outlook and continued to expand. Manufacturing industry developed with little or no government support, except that in recent years the government has provided some financial assistance and considerable protection against foreign competition. Although the government has slowly increased its services to agriculture and may be said to have contributed to its expansion by interposing no bars to the occupation and cultivation of new land, it did not play a significant role in the great increase in output. Even the development of irrigation has been left primarily to private enterprise, which has extended the irrigated area by sinking wells and, above all, by installing pumps on river banks. Thus only 48,000 hectares are irrigated by government schemes, whereas 250,000 hectares are irrigated by privately installed pumps. In the field of transport, as already indicated, private motor carriers have assumed the burden of increased traffic despite poor public roads.

The most significant, though indirect, contribution made by the gov- 658
ernment to development has been in the field of education. Increased outlays on education account for almost half of the total postwar expansion in non-defense ordinary budget expenditures, which rose from an actual total of £S 70.9 million in 1945 to an estimated figure of £S 125 million in
1954. During this period the number of schools and pupils more than
doubled. The literacy rate has probably been lifted to around 40%, which [212]
compares favorably with most Arab countries. In the field of communications the government has been active, notably in the development of the port of Latakia and in the expansion and improvement of the telephone network.

The Syrian economy has now probably reached a stage in its develop- 654
ment at which the government must undertake a more important pro- 433
motional role. It is unlikely that in the future private enterprise will be 311
able to maintain, unaided, the past rate of expansion. The amount of idle land that can be put to the plow without significant investment has

654 433 311 severely diminished, and agricultural prices no longer afford such a powerful stimulus to the expansion of acreage. Extension of the irrigated area must depend increasingly on public investment, particularly since the area which can be economically irrigated by privately installed pumps cannot be greatly expanded.

654 433 High transport costs and the low quality of grain are becoming serious handicaps to Syria in an increasingly competitive world grain market. In other sectors economic activity seems also to be slackening. The future growth of industry is likely to be less rapid now that the more obvious manufacturing industries have been established. In construction it is also quite possible that the postwar boom has passed or will shortly pass its peak. Thus in the absence of a well-considered government program to stimulate the economy, the rapid increase in production and private investment may well taper off.

654 241 In agriculture the government now faces the need to make a careful inventory of remaining land resources, to carry out irrigation projects on a greatly increased scale and to initiate settlement schemes for state lands. Steps must be taken to maintain and stimulate Syria's grain exports by providing better and cheaper transport and establishing facilities for the storage, grading and cleaning of cereals, thereby reducing losses and improving quality. In the future more emphasis will need to be placed on raising agricultural and livestock yields. The government will have to stimulate farmers to use better seeds and implements and to improve their crop rotation in the direction of soil-building crops and greater diversification. Livestock yields must be raised by undertaking a program of selection and cross-breeding, by building livestock shelters and providing more water for migrating livestock, and by initiating a more effective campaign against pests and diseases. To achieve these objectives the government must also expand and improve agricultural education, make available extension services at the village level and furnish much more agricultural credit on reasonable terms. Special efforts are required to assist the small peasant proprietor and the tenant who have not in the past fully shared in the rising prosperity. They must be helped to achieve greater economic independence and security and enabled to acquire the means of production with which to increase their incomes.

654 433 Although further expansion in industry should prove possible, greater emphasis will have to be placed on selective expansion and on increasing efficiency so as to lower prices and broaden the market. Here the govern-

CHAPTER 3

AGRICULTURE AND ANIMAL HUSBANDRY

1 CHARACTERISTIC FEATURES AND PROBLEMS

A development program for Syria must focus primarily on agriculture. 244 Despite the expansion of manufacturing, agriculture will continue to be the country's principal industry. Its potentialities are still large. It not only employs more people than any other occupation, but furnishes most of the raw materials for manufacturing and gives rise to most of the business in commerce.

The mission has drawn up its recommendations in the light of the characteristics of Syrian agriculture and the principal problems which must be met. Its conception of these characteristics and problems, as outlined below, must therefore be clearly understood.

1. *Syrian agriculture is primarily dependent on rainfall which is* 244 *seasonal, varies considerably from year to year and is frequently scanty.* 311

Irrigated land accounts for only 11-12% of perhaps 3.5 million hectares under cultivation. Since there is no rain during the summer, winter crops predominate. Wheat and barley are therefore the principal crops; and the possibilities of diversification are limited. In most of the cultivated area normal rainfall is barely adequate. Periodic droughts such as the one in 1951 tend to make farm income very unstable.

All this points to the need for expanding the area under irrigation as much as possible. The proper conservation and use of the limited water resources is one of the paramount problems of Syrian agriculture. The extension of irrigation in the past has already made possible the introduction of such new crops as cotton and sugar beets which have added substantially to agricultural income.

2. *The great increase in the area under cultivation over the last few decades severely limits the possibility of further expansion without irrigation.*

In the past there was plenty of good idle land available for farming. The rapid extension of cultivation was greatly facilitated by the fact that

241 people could claim title to "empty" land by simply occupying and culti-
311 vating it for a period of years. Legislative Decree No. 135, although never applied, was enacted to halt this unregulated expansion by making all unoccupied land state domain and thus subject to exploitation only with a prior permit. This legislation implicitly recognized that the amount of land that could still be put to the plow was steadily shrinking. Nonetheless the mission encountered a widespread impression that agricultural land resources were virtually limitless. Official estimates that there remain somewhat over 3 million hectares of land available for cultivation appear to support this impression. However, such an estimate is at best only a rough guess. It undoubtedly includes much land which is marginal from the standpoint of fertility or rainfall. It should be frankly acknowledged that there is little or no reliable information on this subject. The mission itself gained the impression on its travels that the amount of land still available for cultivation without irrigation is extremely limited. Here and there in the Jezireh, for example, cropping has already pushed forward into marginal land. Even though good yields may be obtained on such lands in seasons of abnormally heavy rainfall, farming would normally be very hazardous.

Certain conclusions must be drawn. The first is that irrigation will need to play an increasingly important role in the expansion of land under cultivation. The second is that a careful inventory and classification of the land still available should be undertaken in order to determine how it may be most effectively utilized and what must be done to make it productive. The final conclusion is that there is need to work out policies and programs for the exploitation and settlement of such good land as remains.

241 3. *Ownership of the means of production in agriculture is very un-*
423 *evenly distributed, resulting in wide disparities in income.*

Land ownership is by no means equally distributed. There are many landless peasants, while large landed estates, some exceeding several hundred thousand hectares, predominate in the provinces of Hama, Homs, Aleppo and the Jezireh. One estimate indicates that 38% of the total area of privately owned land was in holdings of over 100 hectares and only 19% in small holdings of 10 hectares and less. Reliable figures on the distribution of land ownership will be available only upon completion of the cadastral survey now in progress. Of the area surveyed by the end of 1952, however, 49% was held in properties of over 100 hectares and 16% in properties of more than 1,000 hectares. These proportions, however, are

II IRRIGATION AND RECLAMATION

The extension of irrigated land is of vital importance in a country like 311
Syria, where large potentially fertile areas yield little or nothing because 312
rainfall is inadequate and where nearly all of the cultivable area produces no summer crops because no rain falls from spring to autumn. It has become even more imperative with the shrinkage in the area of good rainfed land which can still be taken under cultivation. Thus irrigation is the principal means for expanding the cultivated area, increasing and stabilizing yields and diversifying agricultural production by developing summer crop cultivation.

Existing Irrigated Areas

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At present about 400,000 hectares of land are probably already under irrigation. Of these, approximately 250,000 hectares are irrigated by pumps drawing water principally from rivers but also from wells. Most of the river pumps are located in the valley of the Euphrates and its tributary, the Khabour, while by far the greater number of pumps drawing on underground water is in the provinces of Hama and Aleppo. Except for small areas still supplied by animal-driven *norias* (water wheels), the remainder is irrigated by gravity flow from rivers, springs and *foggarahs* (underground ducts). Only 48,000 hectares are covered by government irrigation schemes, including the Homs-Hama scheme providing a rather inadequate supply of water from the Homs lake to 22,000 hectares; the Mzerib project in the Hauran, which irrigates 2,500 hectares from the springs feeding the Yarmuk river; the Tell Maghass scheme on the Khabour, which provides for 8,500 hectares but is not completed; and the Matkh project covering 15,000 hectares south of Aleppo, which receives a wholly inadequate supply of water from the Kouek river during the dry season when most of the water in the upper reaches of the river is taken by Turkey for irrigation.

The possibilities of additional irrigation are by no means limitless. [123]
Except for the Euphrates, Syria has no large river with a substantial flow during the summer dry season. In fact the Euphrates accounts for 83% of the aggregate annual flow of Syria's rivers. Thus the available water supply may set a limit of 400,000 to 600,000 hectares on the additional area which can be irrigated. In the last analysis, however, the upper limit will be determined by the division of the Euphrates water with Iraq, which is in the

14:International Bank S-5 (1954)1955 MD1 Syria MD1

TABLE 5 Expenditures on Irrigation and Reclamation, 1950–60

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(Thousand £S)

	Past outlays			Future outlays	
	1950–52 average	1953 estimate	1954 estimate	1955–60 total	Annual average
Projects—total	2,3[illegible][a]	3,130[a]	3,380[a]	197,000	32,833
Completion of works	—	—	—	9,000	1,500
Ghab	—	—	—	102,000[b]	17,000
Other new works	—	—	—	83,000	13,833
Euphrates valley studies	—	—	—	3,000	500
Maintenance	113	205	350	3,000	500
Research and demonstration	—	—	—	1,200	200
Grand total	2,481	3,335	3,730	201,200	33,533

[a] Budgetary and extrabudgetary expenditures. The 1954 total excludes an £S 5 million authorization for the Ghab of which probably only a negligible portion was spent.

[b] After allowance for receipts from sale of land and water.

III LAND POLICIES AND LAND SETTLEMENT[9]

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A fuller knowledge of the available land resources is essential not only to plan better utilization of land already under exploitation, but also to determine how much land remains for expansion of cultivation and what must be done to make it productive. Even the existing pattern of land utilization is hardly known. Data on the total cultivated area, on the acreage planted to individual crops and on production are at best only rough estimates which are often quite wide of the mark. Little is known as yet about various types of soils, their deficiencies and potentialities. Widely varying opinions are expressed regarding the area which can still be put to the plow or can be irrigated by gravity flow.

Aerial Survey Program

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Aerial photography can be of great assistance in planning land utilization and public works of importance to agriculture. Up to the present it

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[9] See Annex E, p. 351.

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has been used in Syria to obtain topographic data necessary for certain irrigation projects and, in formulating an accelerated program for a cadastral survey of the Jezireh in 1952, the government provided for a photographic survey of this entire region. An aerial survey of all of Syria except waste desert areas would no doubt be desirable, but the mission realizes that financial considerations make a more limited objective necessary. For the period ending in 1960 the mission suggests accordingly that the following areas be surveyed (see Map 5):

1. An area of about 2,250 square kilometers in the provinces of Latakia and Aleppo.

The purpose would be to facilitate (1) a delimitation and assessment of the forest area in Latakia which constitutes the most important timber resource of the country, (2) the location of an appropriate dam site on the Nahr el Kebir, and (3) the planning of irrigation for the Roudj.

For nearly the entire area mapping on a scale of 1:20,000 with 5-meter contours would be sufficient, but for the Roudj and the area of the dam site mapping at 1:5,000 with 1-meter contours would be necessary.

2. An area of approximately 7,000 square kilometers east of the Aleppo-Hama-Homs-Damascus highway.

Here the object would be to determine what part of this area might be still available for cultivation. At present conflicting opinions are held regarding the potentialities of the area.

Aerial photography, coupled with the preparation of a controlled photomosaic, would suffice.

3. An area of about 4,600 square kilometers north of Raqqa and extending to the Turkish frontier.

This area is also claimed to contain much unutilized but cultivable land. Aerial photography would permit a rapid delimitation and analysis of the area in relation to the land already under cultivation.

4. An area of approximately 6,000 square kilometers in the Euphrates valley region, comprising the Raqqa and Resafe plains and extending to the Halibiye-Zalebiye gorge.

This survey, as already indicated, is an essential part of the planning work for the irrigation system dependent on the projected Youssef Pasha reservoir.

Mapping at a scale of 1:20,000 with 2-meter contours would suffice for

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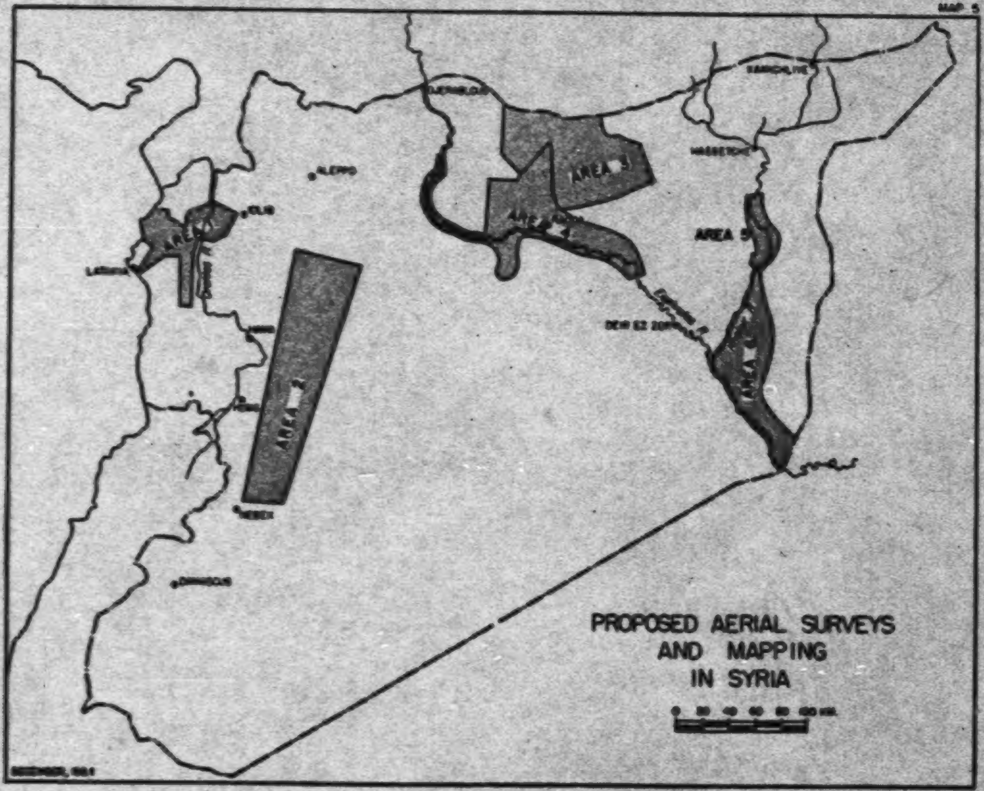
MAP 5
DJERABLOUS
KAMICHLIYE
HASSETCHE
ALEPPO
IDLIB
LATTAKIA
AREA 1
AREA 2
AREA 3
AREA 4
AREA 5
AREA 6
DEIR EZ ZOR
Euphrates R.
NEBEK
DAMASCUS
0 20 40 60 80 100 KM
DECEMBER, 1954

PROPOSED AERIAL SURVEYS
AND MAPPING
IN SYRIA

311 654 most of the region; a scale of 1:10,000 with 2-meter contours for a narrow band running along the Euphrates; and a scale of 1:5,000 with identical contours for the area immediately around the gorge.

5. An area of about 970 square kilometers in the Khabour river valley upstream from Markada.

Aerial photography is already covered by an existing contract. Mapping is necessary to facilitate irrigation planning and to investigate the possibility of a dam at Markada. Mapping on a scale of 1:20,000 with 2-meter contours would be sufficient except for the proposed dam site where the scale would need to be 1:5,000.

6. An area of some 3,400 square kilometers on the left banks of the Khabour and Euphrates rivers.

Mapping of this area on a scale of 1:20,000 with 2-meter contours appears necessary to determine the possibilities of gravity irrigation and to expedite needed soil surveys.

These surveys, which together would cost approximately £S 4 million, would cover most of the land potentially available for cultivation and the greater part of the irrigable area.

Soil Surveys

654 134 The aerial reconnaissance the mission has suggested would greatly expedite the soil survey already started under the direction of an FAO specialist. Soils can be classified into broad types on the basis of aerial photographs. With additional work on the ground it is possible to proceed to more detailed agrogeological soil mapping, which is necessary to determine how the land already under cultivation can better be employed and how land still unoccupied can best be utilized. This type of mapping is now being undertaken for the Jezireh as an adjunct to the cadastral survey. While all the detailed soil mapping required can obviously not be completed in a few years, the mission urges that the present soil survey be expedited and broadened. A soils department with a budget of £S 60,000 for 1954 has been established in the Ministry of Agriculture. Its budget will have to be raised to at least £S 100,000. The work on soils should concentrate primarily on areas which will or can be opened to settlement such as the Ghab, the Roudj and certain rainfed regions. From

operation, in striking contrast to large private holdings where the most 162
modern machinery is used. Measures to raise the standard of living of this 241
group must be one of the main objectives of any development program; in 511
the first instance this must be effected through education, improved systems of land tenure, and better credit facilities.

Lessees and landlords. Some city dwellers have interests in agriculture 241
as leasehold operators of tracts of state domain, or as absentee landlords. 427
Although their interests rarely coincide with the demands of sound long-term farming practices, this segment of the population has been instrumental in opening new farm tracts (such as the Jezireh) and in introducing new crops, thereby contributing much to the national economy. The cultivation of the large absentee holdings is generally left to sharecroppers.

Sharecroppers. Each sharecropper is assigned a parcel of land from which, after the apportionment of the crop, he can hope to gain little more than a bare subsistence. In rainfed areas the sharecropper customarily receives rather less than 30% of the crop if he provides only his labor and around 70–75% if he also supplies the working capital; the percentages may be slightly higher in sparsely populated areas, and lower where population pressure is heavier. On irrigated lands the landlord takes 65–75% of the crop if he provides seed and water, and about half if the sharecropper provides the working capital.

In the long run, the position of the sharecropper would be more tolerable if the productivity of the land and his share of it were raised. At present, yearly land assignments may vary, with the result that the cropper has no incentive to improve the land. The restricted area of the assignment and lack of proper equipment, draft animals and money capital contribute to the permanent indebtedness of sharecroppers and their very low standard of living. Measures to improve their lot should include improved tenure status, Agricultural Bank and cooperative assistance in providing working and fixed capital, and resettlement schemes to relieve local land pressure.[1]

Agricultural Regions

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In terms of natural conditions and the types of agriculture practiced, 438
Syria can be divided in nine main agricultural regions. 311

The Hauran and the Djebel Druze. The Hauran and the Djebel Druze includes the mountains of the Djebel Druze and the Julani in the south-

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[1] See Chapter 3, Sections III and VI, of the Main Report.

244 west corner of Syria. The cultivated soil varies from fertile shallow chest-
458 nut in the Djebel Druze to the very fertile deep brown of the plains of
311 Hauran. Part of the shallow, reddish-brown soil extending towards the Anti-Lebanon and the basin of Damascus is uncultivable because of its stony character.

The small to medium-size farm is characteristic of this region. Mules and oxen are the customary draft sources, mechanized agriculture being restricted to the few larger holdings. Wheat and barley are the main winter crops; vetch, lentils and sorghum the summer crops. The acreage under irrigation is insignificant. Although now outstripped by the newly opened Jezireh, the Hauran, famous as a granary in the Greco-Roman period, remains a leading cereal-producing area, and the yields in comparison with other areas are high. Excellent grapes and other fruits are produced in the Djebel Druze, but because of unfavorable market conditions and outlets and the lack of processing facilities and storage, much of each harvest is wasted. In the Julani region, where crop production is uneconomical because of the stony character of the landscape, but where good grazing conditions prevail, double-purpose cattle, for meat and draft, are raised successfully. In this area, land pressure is an urgent problem, especially in the Djebel Druze where many uneconomical small farms hamper progress.

Damascus basin foothills of the Anti-Lebanon. The ample layer of fertile reddish-brown soil of the Damascus basin becomes slightly saline in the Merj and towards the swamps of Lake Ateibe, though under drainage and irrigation these areas would probably be suitable for crops. The bottoms of many of the Anti-Lebanon valleys are covered with more or less deep layers of light brown to dark brown soils of moderate to high fertility, with gravelly alluvium bordering the western foothills. Irrigation water is obtained from the numerous streams, and the basin of Damascus is entirely watered by the Barada river coming from the fertile Zebedani valley. The Barada and many of the small streams offer possibilities of storing winter waters for the future expansion of irrigation.

Numerous orchards and vineyards are found in the Ghouta and in the various valleys, producing considerable quantities of fruits, grapes and nuts. Vegetable, hemp and fodder products, and in recent years cotton and sugar beets,[2] form the main agricultural crops of the Ghouta. Wheat and barley are the traditional regional winter crops and beans and peas the summer ones. As a rule farms are of small to medium size; particularly in the

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[2] Sugar beet production in 1955 is expected to be over 30,000 tons.

Ghouta, dairy farming has been developed. The typical Damascus dairy 241
breed is an excellent milk producer and apparently quite resistant to the 438
heat. 311

The basins of Jairout, El Daou and Palmyra. The third region consists of the brown to grey desert soil. Crop and fruit cultivation, possible only under irrigation, is carried out in small depressions and plots along the bordering mountains where deep layers of very fertile soil occur. During the Greco-Roman period and earlier, a great part of these extensive basins, including the oasis of Palmyra, still famous for its fruits, were prominent producing centers. There are indications that moderate quantities of subterranean water exist.

On some of the best terrain, particularly on the watered alluvial soils, the intensive cultivation of sugar beet, cotton and wheat is possible. At Ain el Barde, for example, record yields are now obtained and reseeding of some of the large natural pasture now used by Bedouins appears to be feasible.

The western plains and hills. The gently undulating land northeast and southwest of Aleppo, the plains of Hama and Homs, and the hills east of the Djebel Ansariya may be broadly grouped as a single region. Soil types range widely from the stony and gravelly desert to the terra rossa and chestnut brown. Local productivity varies greatly with soil and rainfall, but taken as a whole this region ranks very high among producing areas.

The main winter crops are wheat and barley; vetch, beans and sorghum are the principal summer crops. Roughly one-third of the country's wheat production and nearly one-half of its barley come from this region. During the last few years, however, sugar beet and cotton have established themselves as cash crops, and in 1953 the region's cotton output accounted for about three-quarters of Syria's total production. Fruit and nuts in substantial quantities are produced in large orchards, sizable vineyards and olive groves in the Homs, Idlib and Aleppo areas. Most of the land holdings are large, cultivated mainly by sharecroppers; small holdings are in the minority and many of these are too small to be economically justified. As a rule, the best land is already cultivated and though large state domains exist, there is very little land available for further crop expansion. Farm machinery is becoming more common, although the area is still cultivated mainly by the *feddan* and other obsolete implements. Dairy farming is practiced around the larger population centers (e.g., Aleppo) but the industry is still in its infancy and pure-bred stock has been imported by only

244 a few progressive farmers. Mixed farming and pure sheep farming could
438 be successfully pursued in the eastern part of this region, but here, as else-
311 where, the greatest handicap is the land tenure system and unfavorable
● sharecropper conditions.

The coastal plains of Tartous and Latakia and the foothills of the Djebel Ansariya. Along the Mediterranean seashore up to 80% of the deep light sandy soil lends itself well to tree cultivation, particularly to irrigated citrus cultivation.

In general the region is well suited to highly diversified agriculture; the present system is that of winter cereals and vetch and summer crops such as summer legumes, melons and tobacco. About three-quarters of Syria's tobacco is grown in this agricultural district, Abu Riha, Chek el Bint and Tombak being the best known types. The recent cotton boom had its repercussion in this area, particularly as cotton can be grown without irrigation. The region is also well known for its olive groves. Citrus cultivation has gained in importance during the last decade but has only recently begun to receive the governmental attention it deserves.

Manpower is plentiful but land is scarce. The whole region is characterized by small and frequently uneconomic farms of less than 10 hectares. Pressure on the land is particularly evident in the foothills where crops are often farmed on marginal and submarginal land. Manual and animal draft operations are the rule, mechanized farming the exception. Livestock production and dairy farming is insignificant though in many parts of this region they would offer a better yield than does the existing farm system.

The central and northern plains, including the Jezireh. The central and northern plains region follows the line of the "fertile crescent", a strip varying in width from 50 to over 100 kilometers, extending in a semi-circle around the Syrian desert. Shallow reddish-brown type soils prevail, light at the fringe of the sub-desert, deeper, darker and more fertile toward the north. Landholdings are generally large and include great tracts of state domain. The size of individual estates runs from a few hundred hectares in the central plains to several hundred thousand hectares in the Jezireh.

Agriculture is extensive, rather than intensive, and the general manpower shortage has accelerated the introduction of the most modern equipment to cultivate and harvest the region's cereals and small grains. This is particularly true of the Jezireh, which, unlike the central plains, has been only recently opened to organized agriculture, and is now Syria's largest wheat and barley producing area; it accounts for over 40% of total Syrian

wheat production. While the best soils are practically all in production, 241
large areas of medium quality and marginal land are still available and 438
some of these might be cultivated after an appraisal of their productivity. 311
The recent speculative farming wave is responsible for the neglect of such appraisals and far too much marginal land has been broken up and cultivated. Dry farming in this belt (particularly south, east and west of Hassetche) depends greatly on the amount and distribution of the rains.

Although wheat and barley are the principal crops, mention must be made of the cotton and rice grown in the irrigated Khabour valley. The high cotton prices of recent years encouraged speculative cotton growing with varying degrees of success. Rice cultivation has been rather successful, but as it demands the highest water duty the cultivated area has declined somewhat in favor of cotton.

The northeast corner of the Jezireh. Toward the region of Deirik the brown soils of the steppe give way to chestnut brown, with rich black soil in the extreme corner of Deirik. The well-watered plains and undulating lands are intersected by the Jagh-Jagh, Khabour and Soutane rivers and their numerous tributaries, making possible irrigation over vast areas. Tractor cultivation is developing rapidly in this newly opened area, although in comparison with the western Jezireh and the steppe belt the region is less mechanized and more densely populated.

Practically all crops could be grown even without irrigation but wheat and barley are the leading winter crops and sorghum and sesame the main summer crops. Rice is an old staple but is now giving ground to cotton. In the region of Deirik good grapes, excellent potatoes, tomatoes and other vegetables are successfully grown but inadequate transport and storage facilities make their economical exploitation difficult. Livestock, particularly sheep, has greatly declined, due to the expanded crop area. The land is very well suited to raising cattle and beef. A diversification in land use would result in a more balanced and prosperous economy.

The valleys of the Euphrates and Khabour, and the Ghab depression. Though situated in entirely different regions and consequently showing different physiographical aspects, the large river valleys may be classified together in terms of soil fertility, cultivation methods, land tenure systems, population density and development potential.

In the Euphrates and Khabour valleys, the alluvial soil of deep silt loam has excellent agricultural qualities. The soil in the Ghab marshes, lying astride the Orontes about 40 kilometers east of Latakia, consists mainly of

241 heavy clay alluvium in the valley proper and terra rossa and some peat soil
458 along the slopes. Whereas drainage is the main problem in the Ghab, the
311 problem in the Euphrates and Khabour valleys is to extend irrigation so as
to double the present cultivated area. The farms vary from rather large holdings of absentee landlords, cultivated by sharecroppers, to very small farm units owned and worked by the farmer himself.

Crop rotation followed in the irrigated area of the Ghab generally takes the form of barley, cotton, wheat and cotton, while the rotation in the Euphrates valley is similar to that in dry farming regions: cotton or summer crop, fallow, winter wheat.

Yields are generally higher than in the rainfed regions but full use is not made of the available water and the irrigation methods are backward in many parts. Though better yielding cash crops have been introduced, the farmer as a rule cultivates only the few traditional crops. In these areas agricultural education could do much to further more economic water utilization and wider crop diversification.

The lands in the immediate vicinity of the rivers are fully irrigated but not fully utilized during the entire year. Hundreds of thousands of hectares on the somewhat higher land on both banks of the Euphrates and in the lower Khabour valley form a potential future reserve, though the capital outlay required to bring them under cultivation would probably have to be furnished by the government.

The central plains of the Syrian desert. In the central plains low rainfall and extreme temperatures render agricultural production practically nonexistent but the desert is quite important as a natural grazing area (except during the absolutely dry months) for the sheep and camels of nomadic Bedouin tribes. Many parts of the desert, particularly the large depressions, could be better utilized if desert wells were constructed.

134 *Types of Soil*

311 The soils of Syria rank from the world's best to the poorest roughly in the order of (1) alluvial, (2) black, (3) chestnut brown and terra rossa, followed by (4) brown and reddish brown, and (5) grey sub-desert. According to a preliminary survey conducted by an FAO soil specialist the area covered by each of these various types of soil is approximately as follows (in thousand hectares):

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1. alluvial	200
2. black	100
3. chestnut brown and terra rossa	1,500
4. brown and reddish-brown	3,500
5. grey sub-desert	9,000

The remaining 3.7 million hectares is covered by lithasols, eroded rendzina, and saline soils, which for the greater part have no agricultural significance.

Unfortunately, the three best soil types represent no more than about 10% of Syria's total surface area of about 18 million hectares, and it is on these soils only that a wide variety of crops can be grown. Almost all of the brown and reddish-brown soils, covering 20% of the land area, fall in the inner region of the fertile crescent belt where steppe conditions prevail. These soils are most appropriate for the cultivation of cereals and small grains, and are utilized for such purposes in similar regions throughout the world. The grey sub-desert soils (50%) are used primarily for pasture; crop production is possible only under irrigation.

This evaluation serves only as a rough guide to detailed agrogeological soil maps. A more detailed survey of Syrian soils is in progress and it is imperative that it be continued, since soil maps are essential for planning, and, together with data on climate, may be used to determine the types and quantities of crops which may be cultivated to the greatest economic and social advantage. They would also be of the greatest importance for the assessment of taxes on land holdings, should such a tax be instituted.

Soil Fertility and Agricultural Use

Soil fertility and usefulness depend not only on type but also on profile, that is, the layers or horizons (topsoil and subsoils) of soil materials of various colors, on the chemical composition and on the configuration of the terrain and its water supply.

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The depth of profile determines the root rate and the bulk of material available for nutrition, and also indicates the total soil water available—a consideration of importance in view of Syria's semi-arid conditions. Here shallow soils, even the best type, are of limited value only; being more prone to drought than deep ones they are more hazardous as an agricultural base.

Chemical composition of the soil, especially the topsoil, also has an im-

134 portant bearing on fertility, for soils lacking a balance of the main elements 242 (nitrogen, potassium and phosphorus) or deficient in some of the minor elements (calcium, magnesium, etc.) are worthless for agriculture. Nitrogen, the most essential element in plant growth, is extracted from the soil during the growing period. In Syria, the customary method of restoring nitrogen is to leave the land fallow; for centuries this has been done rather successfully in the Hauran and elsewhere. The period of fallow—one, two or three years or more—depends on the type of crop, and, as far as the soil is concerned, the group, quality, depth and restorative capacity. In addition to the customary fallow, Syrian farmers near populated centers use town refuse to restore soil fertility. Unfortunately cheap manure and compost are generally consumed for fuel, but in recent years the use of commercial fertilizers has increased, particularly for cotton and sugar beet. While the Syrian farmers are aware of the importance of better crop rotation practices, improvement of soils through green manuring and leguminous crops is in its infancy.

During the last two decades huge tracts have been opened up, especially in the Jezireh. This land has been idle for centuries and its reserve of chemical compounds caused by decomposition of the natural vegetation is considerable. Though very good soils do exist, particularly in the northeastern parts, the magnitude of the stored elements has generally been overestimated. The reserves, particularly of nitrogen, are not inexhaustible. The virgin soil of the Jezireh has often been compared with virgin soil types in Russia, the United States and Europe but it must be remembered that in Syria the humus has not been so abundant as in humid climates, so that the nitrogen reserve is very limited. When that reserve falls below a certain level soil productivity decreases rapidly even if other elements are in plentiful supply. In Syria continuous exploitation under a monocultural system [311] has resulted in decreased yields in certain areas, notably the Jezireh, where the danger is not yet fully recognized. Even artificial fertilizers cannot replace organic enrichment and the fallow system in its present form is far from sufficient to maintain fertility. New farm techniques, a changed rotation system and increased use of green manuring and fertilizers are urgent needs.

It is believed that Syrian soils are not generally deficient in phosphorus, important for growth and for the forming of grains and seeds, although chemical analyses indicate the total phosphorus available rather than the amount which can actually be absorbed by the plant. Assimilation depends

4. Mixed farming should be promoted in sugar beet areas. The cash 249 return from sugar beet production is three to six times larger than that from wheat and other crops. Moreover, the leaves from one hectare of sugar beet make an excellent silage fodder, equivalent to about 4.5 tons of good hay.

v CROP DIVERSIFICATION

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Practically all temperate and many subtropical crops can be and are 311 grown in Syria. Their distribution, however, is very poor. The mission strongly emphasizes the desirability of a wider diversification to lessen the risks and to ensure a better use of available land and manpower. In nearly all the rainfed zones leguminous fodder crops could be substituted for the customary fallow. These would provide the soil with needed nitrogen, improve its structure and serve as fodder. If livestock were adequately fed for a single season, human food production would probably thereby be increased, indirectly, to a greater extent and sooner than if the land were sown to crops for human consumption. An increase in livestock, particularly in irrigated zones but also in the rainfed area, means fuller employment and higher income for the rural population.

To supplement winter vetch and berseem, the mission suggests the introduction for field trials of the cluster bean (*Cyanopsia sp. sp.*), a grain and forage plant widely cultivated in Sicily; some of the varieties can be grown with sorghum. In addition there is the possibility of goat's rue (*Galega orientalis*), a bushy, erect perennial herb of high nutritive value, and of sulla (*Hedysarum coronarium*), which can be used as green fodder or hay and which ranks with red clover in nutritive value. The latter grows best in deep, rich calcareous soils, but can also be grown in poor soil if it contains lime. Sulla can be sown alone, with cereals, or in mixtures with other legumes; it yields up to 120 tons of green matter per hectare under irrigation, and it may produce from 16-50 tons even on non-irrigated land.[6] Trials to reseed a wild species of alfalfa, reported to grow in the Anti-Lebanon region, should be undertaken in other areas. Cultivated lucerne and alfalfa (*Medicago sp. sp.*) have responded successfully; their more extensive cultivation should be encouraged. Of the 50 or more species the most common is *Medicago sativa* and *M. varia*, of which many strains are adapted to drought and to hard winters; they can be grown as either winter or summer crops. The same can be said of the clovers (*Melilotus sp. sp.*) and the fenugreek (*Trigonellia sp.*), good fodder plants which can be mixed with oats or vetches.

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[6] FAO publication, *Legumes in Agriculture*.

Even under an irrigation system the selection of hardy cultural winter crops for Syrian conditions is very restricted and none can replace the winter cereals as cash crops. A greater choice is possible among summer crops, some of which may become quite significant in the future.

Besides the great variety of cow peas (*Vigna sp.*), vetches (*Vicia sp.*), chick peas (*Cicer sp.*), lentils (*Lens sp.*), beans (*Phaseolus sp.*) and peas (*Pisum sp.*), the cultivation of peanuts (*Arachis sp.*) and soya (*Soya max*) is strongly recommended. Both are grown in Syria but current production is negligible, in spite of the fact that these crops are adaptable to both small and large size farming. In the coastal plains, in many parts of the fertile crescent and particularly in the Euphrates and Khabour valleys, there are ideal soils (well drained, fertile sandy loams) and favorable conditions of climate (good rainfall or irrigation possibilities during the growing and seed setting periods, combined with hot weather during the time of seed ripening) for their cultivation. Preferably, the multi-purpose peanut should be grown in rotation with maize, sorghum or hemp. Areas in Syria where peanuts could be grown successfully must run into tens of thousands of hectares.

An even wider range could be found for soya, which could be cultivated for human consumption, concentrates for farm animals, oil and for the manufacture of many other valuable materials (e.g., plastics). The soya plant also makes good hay, silage or pasture. Its increased production would be of great value to Syria, for its flour, when mixed with wheat flour, would improve the national diet. Soya thrives best in somewhat moist loose soil, but is also rather drought-resistant. Numerous varieties and strains exist, adapted to different growing conditions and early maturing from 60 days on.

A departure from the traditional farming system and a shift to greater diversification and mixed farming will take time and can be achieved only through demonstration and education. No radical change can be expected in the next year or two; intercropping of the cereals with leguminous plants would be a good start. Distribution of free seed and some financial help to the owners or sharecroppers of small farms selected for demonstrations could undoubtedly accelerate the recommended changes.

246 VII PASTURE RESEEDING

311 In the Main Report we specifically recommended the reseeding of the Resafe and Palmyra desert basins where the soil is fertile, the rainfall generally higher than in other desert regions, and the possibilities of storing some of the water and distributing it evenly by means of diversion dams better than elsewhere. In parts of Australia, Morocco, Algeria and South Africa, where climatic conditions are similar to those in the Syrian desert, introduction of the following herbs and grasses has shown good results: salt bushes (*Atriplex semibaccata; Atriplex vesicatum*); blue bushes (*Kochia sp.*); crow foot (*Erodium sp.*); buffalo grass (*Cenchrus cilinaris*); veldt grass (*Earharta calcycina*); *Lotus maroccanus;* and *Dactylia glomerata,* var. *Hispanica*. These perennials, more or less winter-hardy and drought-resistant, plus the existing flora, would probably make excellent sheep and goat pasture in Syria. The group of FAO experts which has been conducting experiments with respect to improved grazing conditions might help the Ministry of Agriculture to develop a successful program.

Since conditions in Iraq and Jordan are similar it would be advantageous if these countries were to participate in the program.

VIII LIVESTOCK

232 *Livestock Center*

We understand that a site for a center near Damascus has already been selected. We urge that stables and shelter, which would be designed to serve as models, should not be so elaborate as to be beyond the reach of the average farmer. We suggest that the main center have three separate divisions for sheep and goats, cattle, and poultry respectively, and that the two principal tasks of the staff should be to initiate a breeding program and to train Syrians in this work.

In the Sheep and Goat Division the sheep breeding program might be conducted along the following lines:

1st year: Assembling a station flock of the best indigenous type; purchase of 200-300 native ewes; and importation of a nucleus of pure-bred flocks—Merino from South Africa, Merino-Fleisch from Germany or

312 In the mission's opinion the amortization period of 65-70 years is too
427 long; if the same standards were applied to the new projects requiring large investment Syria's economic development would be hindered. We recommend a further revision of the basis for calculating the fees so that capital cost is amortized in a period of, say, 35-40 years, provided that in no case should the fee exceed the money value of the benefits to the landowner or cultivator. Benefits should be conservatively calculated to allow for variations in prices and yields of crops.

It also appears that although small holders might appropriately be charged a lower rate, the degree of progression in the existing water fees may be excessive.

APPENDIX

311 TABLE I River Flow and Government's Estimate
312 of Irrigated and Irrigable Areas

Origin of utilized water	Annual flow (million cubic meters)	Irrigated area (thousand hectares)	Irrigable area (thousand hectares)
Euphrates	25,000	125.0	340.0
Khabour	1,500	20.0	90.0
Orontes	500	35.0	55.0
Yarmuk	450	3.0	7.5
Barada-Awadj	485	15.0	25.0
Kowek	75	12.0	15.0
Afrin	250	2.5	7.5
Sadjour	90	2.5	3.0
Baligh	150	8.5	10.0
Jagh-Jagh	90	8.0	10.0
Senn	360	0.5	5.0
Nahr el Kebir	150	0.5	2.0
Total	29,100[a]	232.5	570.0
Underground water		75.0	100.0
Miscellaneous		67.5	80.0
Gross total		375.0[b]	750.0[b]

[a] To which should be added approximately 500 million cubic meters from other small rivers and streams.

[b] Underestimated, in the mission's opinion.

SOURCE: Directorate of Irrigation.

THE SYRIAN DESERT

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361 The Syrian desert is not uniformly barren. There are enormous stretches of steppeland, where life is not impossible, or at least not permanently so. The winter rains, rare though they are, make the pastures green and fill the water-holes. The wandering Bedouins manage to feed their flocks all the year round; and their camps are found here and there in the desert solitudes. In some places indeed, there is sedentary as well as nomadic life; near a well or a spring a group of dwellings may be built, palm trees grow up and crops are cultivated.

The necessary conditions for the transitory development of certain sites, when circumstances are favourable, may thus be found. At certain times in history, irrigation work has been undertaken to assist crop growing and reservoirs have been dug to make permanent settlement possible. Trade has provided means of livelihood for a larger population than the products of the earth would have sufficed to maintain. Military defence requirements have led to the building of forts and castles, and the necessary supplies for those who manned them have had to be found.

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361 This accounts for the establishment of the great desert routes, with their chains of halting-places at the only spots where the existence of natural or artificial resources made life possible. The natural route from the Persian Gulf to the Mediterranean, via the Euphrates valley to Aleppo and Antioch, was shortened by the short cut across the desert which of necessity passed through Palmyra, either continuing straight to the Homs Gap or turning south towards Damascus and Palestine. Settlements grew up, at each end of the desert route or at oases along it, or again at strategic points such as river crossings or mountain gorges, some places, indeed, fulfilling several of these conditions (e.g. Dura and Palmyra).

PALMYRA

361 Palmyra has a considerable and well-deserved fame, first for its natural beauty—abundant sulphur springs, transparent blue

p. 24B

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حالة اعمال التحديد والتحرير حسب الاقضية ، في نهاية عام ١٩٥٢

EXTENT OF LAND SURVEYED AS AT THE END OF 1952, BY QADAS.

Table No. 1 جدول رقم ١

MOHAFAZAT AND QADAS	المساحة المحدودة (بالهكتار) Area surveyed (Hectars)	المساحة المتبقية التحديد (بالهكتار) Area to be surveyed (hectars)	المساحة الغير قابلة الزراعة (بالهكتار) Uncultivable Area (hectars)	المساحة الكلية (بالهكتار) Total Area (Hectars)	المحافظة والقضاء
TOTAL	**2,544,853**	**4,272,865**	**10,630,326**	**18,447,886**	الجموع العام
DAMASCUS MOHAFAZA					محافظة دمشق
and Damascus city	**286,493**	**562,842**	**1,103,406**	**1,952,753**	ومدينة دمشق الممتازة
Mohafaza centre	44,842	6,500	—	51,342	مركز المحافظة
Quneitra	5.230	124,770	—	130,000	قضاء القنيطرة
Duma	116,782	100.000	989,206	1,206,000	« دوما
Zabadani	—	56,800	8,200	65,000	« الزبداني
Al-Qutaifeh & Nabek	—	250,000	106,000	356,000	قضائي القطيفة والنبك
Qatana	119,639	24,772	—	144,411	قضاء قطنا
HOMS MOHAFAZA	**921,008**	**278,200**	**2,965,792**	**4,165,000**	محافظة حمص
Mohafaza centre	921.008	278,200	2,965,792	4,165,000	مركز المحافظة
HAMA MOHAFAZA	**632,185**	**100,000**	—	**732,185**	محافظة حماه
Mohafaza centre	280,865	—	—	280,865	مركز المحافظة
Salamiya	351,320	100,000	—	451.320	قضاء السلمية
LATAKIA MOHAFAZA	**204,164**	**349,997**	**53,839**	**608,000**	محافظة اللاذقية
Banias	5,342	49,976	16,682	72,000	قضاء بانياس
Talkhalakh	9,701	43,931	368	54,000	« تلكلخ
Jableh	22,989	50,000	5,011	78,000	« جبلة
Al-Hiffeh	47,506	26,544	12,950	87,000	« الحفة
Safita	7,334	49,955	3,211	61,000	« صافيتا
Tartus	23,753	29,978	2,269	56,000	« طرطوس
Latakia	45,759	49,613	4,628	100,000	« اللاذقية
Misiaf	41,280	50,000	8,720	100,000	« مصياف

متنوعة

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حالة اعمال التحديد والتحرير حسب الاقضية ، في نهاية عام ١٩٥٢

EXTENT OF LAND SURVEYED AS AT THE END OF 1952, BY QADAS.

Table No. 1 (Concld.)

جدول رقم ١ (تتمة)

MOHAFAZAT AND QADAS	المساحة المحدودة (بالهكتار) Area surveyed (Hectars)	المساحة المتبقية للتحديد (بالهكتار) Area to be surveyed (hectars)	المساحة الغير قابلة الزراعة (بالهكتار) Uncultivable Area (hectars)	المساحة الكلية (بالهكتار) Total Area (Hectars)	المحافظة والقضاء
ALEPPO MOHAFAZA	**1,292,859**	**999,089**	—	**2,291,948**	محافظة حلب
Idleb	110,395	60,457	—	170,852	قضاء ادلب
I'zaz	—	145,000	—	154,000	» اعزاز
Al-Bab	165,997	—	—	165,997	» الباب
Ifrin	—	205,000	—	205,000	» عفرين
Jabal Sam'an incl. Aleppo	429,249	—	—	429,249	» جبل سمعان بما فيه مدينة حلب
Jarablus	36,557	73,972	—	110,529	قضاء جرابلس
Jisr-esh-Shughour	25,732	100,660	—	126,392	» جسر الشغور
Harem	—	82,000	—	82,000	» حارم
Ein-al-Arab	—	273,000	—	273,000	» عين العرب
Ma'arrat-an-Na'man	248,520	50,000	—	298,520	» معرة النعمان
Minbej	276,409	—	—	276,409	» منبج
HASAKEH MOHAFAZA	**95,725**	**796,275**	**1,325,000**	**2,217,000**	محافظة الحسكة
Mohafaza centre	95,725	204,275	1,225,000	1,525,000	مركز المحافظة
Dajla	—	200,000	100,000	300,000	قضاء الدجلة
Qamishli	—	392,000	—	392,000	» القامشلي
DEIR-EZ-ZOR MOHAFAZA	**8,641**	**500,000**	**4,997,359**	**5,506,000**	محافظة دير الزور
Mohafaza centre	8,641	100,000	1,251,359	1,360,000	مركز المحافظة
Abu Kamal	—	75,000	276,000	351,000	قضاء البوكمال
Ar-Riqqa	—	250,000	1,950,000	2,200,000	» الرقة
Al-Mayadin	—	75,000	1,520,000	1,595,000	» الميادين
SWEIDA MOHAFAZA	—	**370,000**	**185,000**	**555,000**	محافظة السويداء
Mohafaza centre	—	80,000	67,000	147,000	مركز المحافظة
Shahba'	—	150,000	51,000	201,000	قضاء الشهباء
Salkhad	—	140,000	67,000	207,000	» صلخد
DER'A MOHAFAZA	**103,798**	**316,202**	—	**420,000**	محافظة درعا
Mohafaza centre	70,172	76,828	—	147,000	مركز المحافظة
Izra'	27,194	186,806	—	214,000	قضاء ازرع
Feeq	6,432	52,568	—	59,000	» فيق

Source : Directorate General of Land Survey.

المصدر : المديرية العامة للمصالح العقارية

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MISCELLANEOUS

AREA OF LAND CULTIVATED AND UNCULTIVATED, BY MOHAFAZAT, 1951 AND 1952.
(Area in hectare)

Table No. 2

MOHAFAZAT	المجموع العام Grand total	اراضي قابلة للزراعة Cultivable lands Cultivated مستثمرة المجموع Total	 سقي Irrigated	 بعل Non-irrigated	غير مستثمرة Uncultivated
YEAR 1951					
Damascus	1,952,753	159,170	81,116	78,054	354,480
Homs	4,165,000	299,250	25,250	274,000	460,000
Hama	732,135	503,865	17,114	486,751	16,800
Latakia	608,000	257,846	30,579	227,267	72,272
Aleppo	2,112,870	1,122,823	80,407	1,042,416	459,782
Al-Hasakeh	2,217,000	540,462	44,694	495,768	596,620
Deir-ez-Zor	5,506,000	261,682	200,840	60,842	1,052,791
Sweida	505,000	60,690	100	60,590	60,590
Dir'a	427,632	279,432	11,932	267,500	4,200
Total	18,276,470	3,485,251	492,032	2,993,188	3,139,545
YEAR 1952					
Damascus	1,952,753	159,170	81,116	78,054	354,480
Homs	4,219,000 (1)	342,430	38,400	304,030	458,900
Hama	532,135 (2)	539,975	28,504	511,471	22,790
Latakia	454,000 (3)	178,264	9,733	168,531	57,085
Aleppo	2,112,870	1,236,675	89,263	1,147,412	416,736
Al-Hasakeh	2,217,000	541,469	40,000	501,469	694,521
Deir-ez-Zor	5,506,000	326,713	206,340	120,373	1,017,701
Sweida	555,000	60,690	200	60,490	60,590
Dir'a	427,632	283,794	15,902	267,892	4,200
Total	18,276,470	3,669,180	508,958	3,160,222	3,087,183

Source : Ministry of Agriculture.

(1) Including Talkhalakh Qada.
(2) Including Misiaf Qada.
(3) Excluding the Qadas of Talkhalakh and Misiaf.

متبوعة

مساحة الاراضي المزروعة وغير المزروعة حسب المحافظات خلال عامي ١٩٥٢ و١٩٥٣

(المساحة بالهكتار)

جدول رقم ٢

المحافظات	اراضي غير قابلة للزراعة Uncultivable lands			
	متنوعة Miscellaneous	المراعي Pastures	الحراج Forests	المجموع Total
عام ١٩٥٢				
دمشق	437,192	953,956	47,985	1,439,133
حمص	1,504,720	1,514,066	86,934	3,405,720
حماه	27,000	96,469	89,051	211,520
اللاذقية	158,212	22,150	102,520	277,882
حلب	367,900	87,645	44,710	500,255
الحسكة	122,258	939,660	16,000	1,077,918
دير الزور	1,696,507	2,461,014	4,005	4,161,526
السويداء	407,806	17,000	8,924	433,720
درعا	130,574	8,900	4,526	144,000
المجموع	4,847,168	6,399,860	404,645	11,651,674
عام ١٩٥٣				
دمشق	437,192	953,956	47,985	1,439,133
حمص	1,505,220	1,811,150	101,300	3,417,670
حماه	50,600	96,469	122,351	269,420
اللاذقية	131,425	18,285	68,830	218,641
حلب	326,202	88,547	44,710	459,459
الحسكة	83,000	882,000	16,000	981,000
دير الزور	1,696,507	2,461,014	4,005	4,161,526
السويداء	405,720	17,000	11,000	433,720
درعا	126,112	8,900	4,526	139,538
المجموع	4,761,979	6,337,421	420,707	11,520,107

المصدر : وزارة الزراعة

(١) ضم اليها قضاء تلكلخ
(٢) ضم اليها قضاء مصياف
(٣) سلخ منها قضاء تلكلخ ومصياف

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توزيع الساحة المروية حسب المحافظات ، ١٩٥٣

DISTRIBUTION OF IRRIGATED AREA, BY MOHAFAZAT, IN 1953

Table No. 3 جدول رقم ٣

MOHAFAZAT	الساحة المروية (بالهكتار) : Irrigated Area (in hectars)						المحافظات
	الجموع Total	مياه الانهار By rivers	مياه الاقنية والينابيع By canals and springs	مياه الآبار By underground water		مياه السيول By torrents	
				بالمحركات by pumps	بالغرافات by norias		
Total	503,958	197,822	57,967	222,386	19,044	1,738	الجموع
Damascus	81,116	56,665	17,503	5,974	544	430	دمشق
Homs	38,400	26,800	6,810	4,740	50	—	حمص
Hama	28,504	14,400	5,822	8,282	—	—	حماه
Latakia	9,733	2,962	3,649	3,122	—	—	اللاذقية
Aleppo	89,263	59,688	12,300	11,075	4,900	1,300	حلب
Deir-ez-Zor	40,000	32,855	7,025	20	100	—	الحسكة
Al-Hassakeh	200,840	3,030	300	189,150	13,290	—	دير الزور
Sweida	200	11	190	1	—	8	السويداء
Dar'a	15,902	11,500	4,380	22	—	—	درعا

Source : Ministry of Agriculture

المصدر : وزارة الزراعة

3:Royal Institute of International Affairs U-4 (no date)1954 M1 Middle East

SYRIA MDI
LEBANON ME1

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648 pensated partly by her transit trade in goods and partly by her gold and currencies market. Syria wanted a controlled economy with import restrictions, protection of Syrian industries, and [illegible] interest was to encourage all trade movements and to rely on franc support: moreover, the two countries could not agree on the division of customs dues. After years of arguments and negotiations the economic partnership was finally terminated on 14 March 1950 and customs posts were established along the common frontier. Since then agreements have been drawn up despite Syrian reluctance, but little has been achieved towards the re-establishment of economic union. It is therefore necessary to consider the economies of the two countries separately.

(*a*) SYRIA

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Agriculture

Over half but less than three-quarters of the cultivable area of Syria is, in fact, under cultivation. Since 1946 there has been a great increase in the number of pumps and tractors in use (there were 300 tractors in 1948 and 1,342 in 1951) but, as the following table shows, the cultivated area can still be extended.

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ESTIMATES OF THE USE OF LAND, 1950

	SYRIA		LEBANON	
	(*sq. miles*)	*Percentage of Total*	(*sq. miles*)	*Percentage of Total*
Cultivable				
Cultivated under rainfall	8,400	12	805	20
Cultivated with irrigation	1,400	2	115	3
Potentially cultivable	14,000	20	700	17
Uncultivable				
Forests	1,600	2	285	7
Pasture	21,000	30	27	1
Desert, mountain and marsh	23,600	34	2,085	52
TOTAL AREA:	70,000	100	4,015	100

(SOURCES: FAO, *Yearbook of Food and Agricultural Statistics, 1952*; UN, Dept. of Economic Affairs, *Review of Economic Conditions in the Middle East, 1951–2*.)

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241 Some progress in mechanized farming has been made in recent years, but much of the land is tilled as it was 2,000 years ago.
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423 The predominant form of land tenure is share-cropping by tenants on estates of large and medium size. Small holdings under 25 acres prevail in areas of intensive cultivation, and at present are estimated to constitute only 15 per cent of the total

18: Tannous H,G-8 (no date) 1951 MI Middle East MI
IRAQ 1941
Syria MD1

equipment, and the livestock. In reality the cultivator's share amounts to less than that, for he has to make certain contributions to local functionaries and to the agent of the landlord.

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There is also clear evidence that unless the system is checked effectively at its roots, it will [illegible] itself. Witness what has happened during the last 50 years or so. Irrigation has been expanded materially, mainly through pump installations, and total agricultural output has been increased tremendously; but the peasant has remained landless and impoverished. In general, he does not possess the ability or initiative to prove his legal claim to the newly developed land. In many cases, even when his right of ownership is recognized, the cultivator is not able financially to maintain the costly pump installation. He is obliged to work on a share basis with one who is able to supply the necessary capital and equipment, be he the chief or the merchant. Gradually, these become the owners of the land, and the original occupant becomes permanently a landless sharecropper. Through this process the virile and integrated tribal community of Iraq is being transformed into a demoralized agricultural settlement, under the control of an absentee landowner chief.

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Syria affords another illustration of the magnitude of the problem. We witness here practically identical conditions of absentee ownership, sharecropping, and low levels of living among the peasants. The manner in which this system threatens the future of agricultural development in Syria is clearly indicated by recent happenings in the Jezira area. This has tremendous possibilities for irrigation and for dry farming. It is sparsely populated, and until recently has been utilized mainly for grazing by nomadic and semi-nomadic tribes. During the last few years cultivation has been expanded rapidly in the area. Modern machinery has been put on the land in large numbers, and bumper grain crops have been harvested.

S 311 471 427 M 471 427

On the surface, this appears to be the beginning of sound development. Upon closer examination, however, we encounter a different reality. The tractor has been put on that fertile soil mostly by speculators and absentee owners. Concern about the ultimate exhaustion of this great national resource is not upper-

Syria MD1
Lebanon ME1

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most in their minds. Furthermore, they put the new land under cultivation through an understanding with the local tribal chief. He guarantees them "protection" of the crop in return for a portion of the produce. Nowhere does the peasant figure in this deal other than as a laborer or a sharecropper. Nowhere do we see signs of the emergence of that badly needed class of small, independent, cultivator-owners.

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The situation in Lebanon presents a glaring and enlightening contrast between two systems. In the mountain area, the heart of the country, a strong tradition of private ownership by small independent farmers prevails. In most cases, the family farm averages about 10 acres. The soil is scanty and the terrain difficult; but the people have their hearts in what they own. They have blasted the rocks and built extensive terraces to prevent erosion; they have made the mountainsides produce abundantly of olives, grapes, figs, and apples. On the narrow coastal strips they have grown luxuriant orchards of citrus and bananas. More significant than all of this, we observe that the village folk in this area enjoy much higher standards of living. This is clearly manifested in their diet, health, housing, and a literacy rate of some 90 percent.

True, they have other sources of income, especially from emigrants residing abroad. Yet the independence they have gained through ownership of the land has endowed them with the initiative and the possibility to seek these other sources and better their living conditions. Unlike the sharecropper, who is doomed to his status, the small independent owner is free to move up the ladder.

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Our argument in this respect gains support from the situation that prevails in the rest of Lebanon — in the Akkar plain of the north, in the Bika valley of the interior, and in the mountain area of the south. Here we witness the predominance of the same feudal-absentee-sharecropping system that exists in Syria and Iraq. Here also we witness the same conditions of deprivation, lack of development and low levels of living. Our argument gains further support from a consideration of living conditions in those village communities of northern Iraq, of some sections of Syria and Jordan, where the people are independent and own

25: Warriner S-5 (no date) 1948 MI Middle East

Lebanon ME1
Syria MO1

Chapter VI

SYRIA AND LEBANON

LAND AND POPULATION

S 241 S [312] At first sight, the main crop of Syria appears to be thistles, and so it is in fact: about half the land is under fallow every year, and the cultivated land is cropped only one year in two or even three. There are some districts with intensive cultivation, for instance, the oasis of Damascus, with its brilliant green crops irrigated by 'Abana and Pharphar'; but most of Syria is cultivated very extensively indeed.

S 311 243 L 311 243 In Syria and Lebanon together the area cultivated before the late war was some 5·8 million acres, but of this total only 3,900,000 acres were cropped each year, the remainder being fallow. The greater part of the cropped area was under cereals, about two-thirds being under wheat and one-third under barley.

L 311 S 311 In Lebanon, the whole of the cultivated area is cropped, and there is no uncultivated land which could be brought into cultivation. In Syria however there are large areas of cultivable land which are not at present cultivated, the total cultivable area being some 12½ million acres, of which only about one-third is under cultivation. Unfortunately this figure is only a rough estimate, and it is not clear how much of the area is cultivable under present conditions, or how much of it is marginal desert grazing. Some of it is undoubtedly cultivable under present conditions, and there is certainly no shortage of land in Syria.

SYRIA: AGRICULTURAL LAND, 1943[1]

Province	*Cultivable* *Acres*	*Cultivated* (including fallow) *Acres*
Jezira	2,471,000	543,600
Euphrates	3,212,000	321,200
Aleppo	3,706,000	1,260,000
Homs	420,000	345,900
Hama	1,309,000	1,210,000
Damascus	1,062,000	345,900
Hauran	518,600	518,900
TOTAL	12,698,600	4,545,500

[1] Omitting the provinces of Latakia and Jebel ed Druz for which no figures are available; their cultivated area may be estimated at about half a million acres.

25: Warriner S-5 (no date) 1948 MI Middle East
Lebanon ME1
Syria MD1

S During the recent war there was an expansion of cultivation
311 in Syria as a result of high prices and mechanization. The
previous table shows the cultivable and cultivated land in
different provinces and the distribution of these areas in 1943.

S Little is known about the rate of population growth, but it is
L believed to be rapid. According to the most recent estimates the
161 *total in 1944 was 5,987,012, of which the population of* Syria
was 2,860,411 and of the Lebanon 1,126,600. The population of
S Syria was divided as follows:
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SYRIA: POPULATION AT END OF 1943

Province	*Total*
Latakia	452,507
Aleppo	870,139
Hama	157,458
Homs	212,424
Hauran	112,842
Damascus	603,889
Euphrates	225,029
Jezira	146,001
Jebel ed Druz	80,128
TOTAL	2,860,411

(This estimate excludes the Beduin, whose number is estimated at 400,000.)

About three-quarters of this total, or about 2·1 million, are
S rural. The amount of cultivated land per head is 2¼ acres, but
311 because cultivation is so extensive the area actually cropped is
only some 1¼ acres.

L Lebanon, by contrast with the dry plains of Syria, is inten-
311 sively cultivated because of the high rainfall on the coast line;
241 yields per acre are higher, and crops are more diversified, in-
cluding citrus, olives, bananas; small irrigation schemes have
489 been developed along the coast on the streams from the Moun-
162 tain. The Lebanon depends for part of its grain supply on Syria,
and all the cultivated land is cropped. The cultivated area in
1943 amounted to 1·3 million acres. The total population in
1944 was estimated to be 1,126,600; of this probably about
750,000 are rural, and the amount of cultivated land is about
1¼ acres per head.

S+L Grain production in Syria and Lebanon together before 1939
241 averaged 800,000 tons and rose to about 1 million tons during
the recent war.

25c Warriner S-5 (no date) 1943 MI Middle East
Lebanon ME1
Syria MD1

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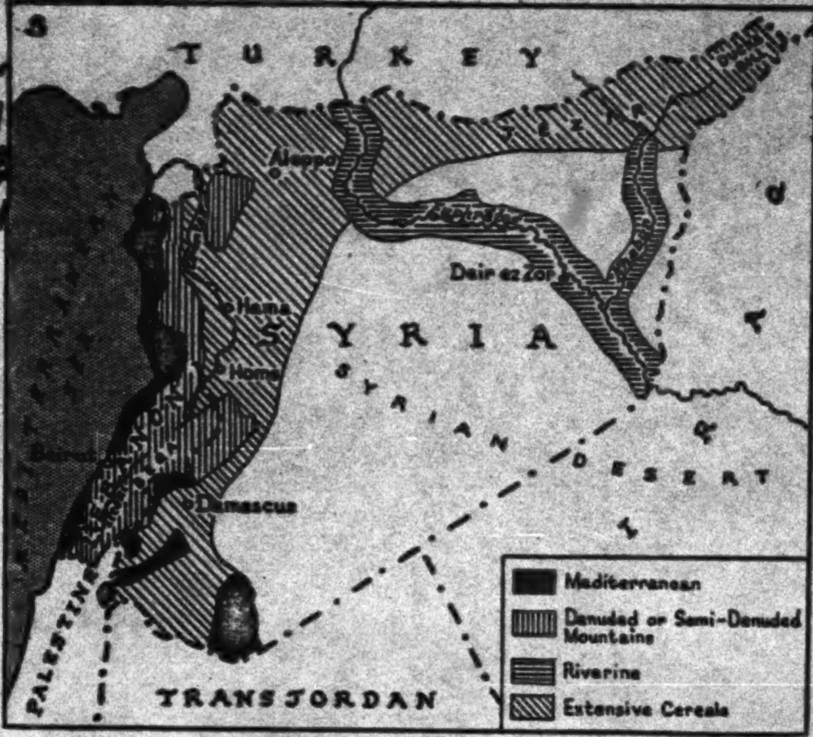
TURKEY
JEZIRA
Aleppo
Euphrates
Deir ez Zor
Hama
SYRIA
Homs
SYRIAN DESERT
IRAQ
Beirut
Damascus
PALESTINE
TRANSJORDAN
Mediterranean
Denuded or Semi-Denuded Mountains
Riverine
Extensive Cereals

SYRIA AND LEBANON: AGRICULTURAL AREAS

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GRAIN PRODUCTION IN SYRIA AND LEBANON, 1934–43

	Tons	Cwts per acre
Wheat		
1934	443,000	6·3
1935	504,000	7·5
1936	427,000	6·3
1937	468,800	6·6
1938	644,300	9·0
1943	624,280	7·3
Barley		
1934	292,100	7·8
1935	347,100	9·5
1936	308,100	8·2
1937	266,900	6·5
1938	383,400	9·0
1943	330,485	8·2

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With a total rural population of about 2·8 million in 1943–4, the production of grain per head amounts to only 3·4 quintals or 6·4 hundredweights. Thus the problem for Syria is to in-

Lebanon ME1

Syria MD1

S
241 crease the productivity per acre and also to expand the cultivated
● 311 area per head.

L
311 In the Lebanon, however, with its steep hillsides under intensive cultivation, there is a definite pressure on land resources.
241 The limits of intensification appear to have been reached, and a
434 large part of the village population supplements its income by work in the towns, and by remittances from abroad. If the land
L tenure system in Syria were less oppressive, room might be
S found on the land for settlers from the Lebanon, but as things
511 are, the standard of living and status of the Lebanese peasant is higher; compared with the Syrian peasant he is a free man, and
167 there is no inducement to leave the Mountain for the underpopulated plains of central or northern Syria.

LAND TENURE

L Corresponding to these different methods of farming, there
471 are different systems of land tenure.[1] In Lebanon individual small ownership is well established, and the pattern of village
423 life, with its broad class of small peasant owners, few large
464 farmers, and a growing class of landless labourers, resembles that of Europe.

S In Syria, the greater part of the land is owned by city not-
471 ables—the ruling class—and cultivated by small share-tenants. Though individual ownership exists in some districts, for instance
427 the Beqa Valley and the oasis of Damascus, the most usual
423 form of landownership in the plain districts of Syria is share-tenancy. The villagers bring their corn to the village threshing floor, and when the grain is threshed the landlord or his agent stands by and takes one-half of the grain. Towards this result he has contributed nothing; all labour, equipment, seeds, livestock, have been supplied by the tenant, so that his share is rent purely for the use of the land. The landlord is almost always an absentee, a city notable who only visits the land to collect rent.

S The share taken by the landlord varies from district to dis-
427 trict, and also varies with the condition of the land. According to an inquiry made by the French authorities, the usual division of the crop for non-irrigated cereals is 40–50 per cent to the

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[1] The information which follows is mainly based on A. Latron, *La Vie rurale en Syrie et au Liban* (Beirut, L'Institut Français de Damas, 1936). The brilliant and profound study by Jacques Weulersse, *Paysans de Syrie et du Proche-Orient*, is an indispensable authority which unfortunately was received only after going to press.

511 their animals. Malaria is prevalent. The majority are heavily
[164] indebted. The tenants on the irrigated land, with an average holding of 18 acres, are also poor but less heavily indebted, because they can depend on a more regular income.

484 The poorest class are the landless labourers whose income in
464 money and kind amounts to 530 Syrian pounds a year (1944)
(£10 at 1939 prices).[1] This is a starvation wage, which means
262 that they can only eat enough in harvest time, and in winter must subsist on maize, bread, and grass.

● 311 The poverty on this estate[1] is therefore a result of the low productivity and the low proportion of the area under cultivation.
241 One way of increasing the area cultivated would be by
409 the use of machinery. Tractors were introduced some fifteen years ago, but proved too costly in relation to the low prices of Syrian grain; owing to lack of skilled drivers and proper maintenance they fell into disrepair. During the late war, however, as the price of grain rose, tractors were again used by some tenants who hired them from neighbouring estates.

312 Another way of raising production would be to increase irrigation since there is sufficient water to supply much more land. In this respect the estate is typical of the whole Homs–Hama plain, where much of the water which the French authorities have made available by irrigation goes to waste.

311 On this estate, therefore, the poverty of the cultivators is due
871 to the landowner's failure to increase the productivity of the
744 soil, rather than to his exploitation of the peasants; compared with other estates, this one is socially progressive, since the landowner's family have set up a school and also distribute medicines free of charge.

The second study covers a more intensively cultivated village,
312 Ashrafie: on the borders of the irrigated district of Damascus.
471 Less heavily supplied with water than El Ghuta itself, Ashrafie has sufficient water to irrigate 10 per cent of the total land. The
427 total area is 1.600 hectares or 4,000 acres, of which 2,400 are owned by four estate owners and the rest by peasants. The largest landowner is an absentee, letting his land on a 50 per cent share-tenancy basis; with definite three-year leases (by contrast with the usual custom under which the tenant has no lease).

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[1] This is calculated on a rate of 9 Syrian pounds to £1, allowing for a six-fold increase in the Syrian cost of living between 1939 and 1944.

[1] [The estate of Misherfe, near Homs --Analyst]

25: Warriner 5-5 (no date) 1948 MI Middle East
Lebanon ME1
Syria MD1

S the land. In 1926–31, 182 villages comprising 181,000 hectares
166 were colonized in small properties by 6,000 families. The
Government of Latakia compelled large proprietors in the
region of Homs to give up their villages in the district of Masyaf
in 1929; the land was distributed among the occupying peasants
and sold to them at a price to be paid for in ten annual instalments.
The village of Jib Ramle was also settled in 1929, in part
by occupying peasants, in part by refugee Armenians.

But the French administration did not complete the settlement
of these areas. In some regions the Turks settled these
lands with nomad tribes, who were themselves averse to cultivation
and either rented the land to Alawi villagers or continued
to live themselves as nomads on the land without cultivating
S much of it. Consequently this land is now very sparsely settled.
● 311 Round Homs there are said to be 2,000 to 4,000 hectares with
only 10 per cent of the land cultivated: this is some of the most
fertile and best situated land in the country, and could be
developed by colonization schemes.

S In several respects the French authorities have modified the
L Turkish system in ways which strengthen the landowners
656 against the cultivators. One of these was the sale of the extensive
423 *Waqf* properties to business enterprises, irrigation concessions,
565 or landowners. Another was the abrogation of the right
of ownership acquired by ten years cultivation which benefited
the small cultivators in enabling them to acquire new land.

S Efforts were made to start co-operative and agricultural
L credit banks, but these never succeeded in breaking the peasant's
185 indebtedness. Several large-scale irrigation schemes were
565 started, but produced more water than could be used. The educational
system did not extend to the villages. Within the frame-
511 work of the existing system, these reforms did little to raise the
standard of the peasants. As a mandatory Power the French
relied on the collaboration of the wealthy upper class, that is,
on the landowners, and so could make no fundamental reforms
in the land system.

POSSIBILITIES OF DEVELOPMENT

S So far as dry land farming is concerned the possibilities of
L improvement are hampered by the dry summer, which necessitates
241 a long period of fallow. However, it would be possible by

25: Warriner S-5 (no date) 1948 MI Middle East
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S better cultivation, if more machinery were available, to reduce
L the fallow to one year out of two, instead of two out of three
241 in the districts where this is customary; it would also be possible,
by machine cultivation, to keep weeds under control. (See
Chapter VIII.)

S The main possibilities of development, however, depend on
312 irrigation. At present an area of some 500,000 acres is irrigated,
and even under the existing scheme much water is wasted. How
L much additional land could be irrigated is a subject for contro-
312 versy. Mr Soubhi Mazloum, a Syrian irrigation engineer, suggests that the total area which could be irrigated, including the use of the Euphrates water, may be as large as 1,200,000 hectares (2,960,000 acres):[1] but this figure refers to the area which it is *physically* possible to irrigate, not the area which could be irrigated with any prospect of economic return.

A more exact and detailed estimate was prepared by Professor Addison, the irrigation expert, who surveyed existing schemes in 1943 and considered that the extension of these which was then economically practicable would irrigate some 68,000 hectares (168,000 acres) in addition to the area already irrigated.

S The difference between these two estimates indicates how
654 wide a range of opinion there is. A survey is now being prepared
by a British irrigation firm on behalf of the Syrian Government, to provide the basis of development projects, and pending its publication it is impossible to quote any more satisfactory estimates.

S *The Jezira and Euphrates Provinces.* In inner Syria, the Jezira
● 311 area and part of the Euphrates province in the north-eastern
corner of the country, there are quite large possibilities of ex-
312 tending cultivation both in the rain-fed zone, and by irrigation.
132 North of a line from Tiyne to Sheikh Saleh there is sufficient
rainfall to water the winter crops. In the 'Duck's Bill' and along the Turkish frontier to a depth of about 12 miles to Derbisiye, the rainfall is 50 to 100 centimetres per year (20–40 inches), and south of this there is another belt with rainfall of 25 to 50 centimetres (10–20 inches), about 50 miles wide.[2]

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[1] 'Le Problème de l'Eau au Liban et en Syrie', in *L'Agriculture, Richesse Nationale*, (Beirut, 1942).

[2] This information is based on an unpublished report prepared for M.E.S.C. in 1944.

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● 311 Within this belt there is a large area of cultivable land still
uncultivated, mainly for reasons of shortage of labour, lack of
233 means of communication, and political insecurity. Unculti-
vated land is generally used for grazing, and in the 'Duck's Bill'
the grass grows high enough for hay cutting. At present the cul-
tivated area is some 481,500 hectares (1,188,000 acres), and it
is estimated that an area about as large again remains uncul-
tivated.

162 The population at present numbers 111,300, of which half
are Kurds. Owing to its remoteness and unsettled state, there
423 has been no survey and settlement of land title. New land is
taken under cultivation under the old Ottoman right by
which ownership is acquired if cultivation can be proved for
ten consecutive years.

471 In the Jezira most of the land is held by large cultivators.
In the Euphrates province much of the land has until recently
312 been owned by the villagers, but now the land is passing into
425 the hands of city landowners as pump irrigation is introduced
(as in Iraq). The pumps and buckets are supplied against pay-
ment in kind by the town merchant or moneyed class; wherever
irrigation brings more lands under cultivation, the ownership
of the extra land is divided equally between the villagers and
the suppliers of water.

427 The system of tenure is the usual share-tenancy; in the
Jezira, according to local custom, the landlord takes one-eighth
464 of the crop to pay taxes, and the remainder is shared equally
between landlord and cultivator, the proportion being deter-
mined by the supply of labour. With the introduction of
[407] machinery—there were about thirty tractors in the area in 1942
—the division into employer and labourers has developed: the
landowner using the tractor on the land and employing wage
labour.

464 Owing to the scarcity of labour, the position of the agricul-
tural labourer in the Jezira area is better than in the rest of
511 Syria. Health conditions, however, are bad: the Kurds suffer
164 from trachoma and villagers in the Kamichlia district from
146 malaria. In the Euphrates region, the position is worse: the
agricultural labourer is weak and underfed, living a hand to
mouth existence and exploited by all.

000 Both in the Jezira and in the Euphrates region there is scope

Syria MD1

POSSIBILITIES OF DEVELOPMENT

Both in the Jezira and in the Euphrates region there is scope for widening the area cultivated and raising the yields, as the soil
241 is fertile. In the Jezira the use of machinery could be extended—
231 it is already increasing fast. Better livestock production could be
137 achieved by greater use of fodder crops for which conditions are favourable: in the 'Duck's Bill' good clover grows wild. At present fodder crops are not considered worth cultivating.

In the Euphrates region there is great scope for extension of
812 irrigation. But a large scale scheme would be costly because the river runs between high escarpments, which vary in distance between each other up to about 10 miles. To irrigate much larger areas it would be necessary to lift water over the escarp-
311 ments. There are large areas of uncultivated land, particularly
312 between Abu Kemal and Deir-ez-Zor. Even on the land already cultivated yields of wheat could be much higher: at present the
243 yield is four to six times the seeding rate, and, according to local farmers, could be raised to ten to fifteen times the seed with
[435] better irrigation. The high cost of fuel oil is the limiting factor as it also is for tractor work. On the Khabur river improvement of the ancient barrages would permit an extension of irrigation.

000 It is in this area that there is real scope for a planned settlement of cultivators, with improved methods and a better system of land tenure. The obvious form for such settlement to take would be on the model of the Jewish co-operative farms, small holdings with collective use of machinery and working to a cropping plan; on the uncultivated land such settlement could be undertaken without incurring high capital costs.

So far as the Euphrates Valley is concerned, similar co-operatives based on communal control of water supplies might be started on a small scale. Large-scale irrigation here would be costly, and would necessarily have to be co-ordinated with the irrigation of Iraq. An immediate step needed is to reduce the price of fuel oil.

While it is easy on paper to see the possibilities of such schemes as these, it is not easy to see where in fact the motive power for them is to come from. They will not bring in quick big returns, which are what local farmers and landowners want: the district is remote and the main object of such investment would be a long period rise in the standard of living, in which the moneyed classes are not interested. Present-day Syria is not

29:Dunn S-4 (1952)1952 MI Middle East .
Syria MDI

CHAPTER II

COTTON IN SYRIA

000 One of the oldest countries in the world with a new-found independence and a new government, fired with ambition and restrained with pride, Syria is struggling against tradition to modernize its practices and remold its economy. A strange contrast of the old and the new is everywhere apparent. The struggle to change is sometimes painful and often frustrating.

Since the country was created only nine years ago, conditions have been hectic and chaotic, marked with military uprisings and three coup d'etats, the last of which brought in the present military dictatorship last year.

Nevertheless, progress has been remarkable. With large profits made during and after the war, the Syrians have done more in modernizing their homes, farms, and factories than had been done in a thousand years before. They have made conspicuous improvement in their roads, irrigation system, schools, and health programs.

Still the standard of living of the people as a whole is miserably low, and their mode of life for the most part is as primitive as it was in the time of Christ.

BACKGROUND

133 311 The resources of Syria are abundant, capable of supporting an economy of a much higher order and a much larger population. This fairly large country with an area of about 72,000 square miles (practically the size of the State of Oklahoma) is located along the eastern shores of the Mediterranean Sea.[27]

The eastern half of Syria is desert, broken only by the Euphrates River and its tributaries. In the west, stretching from the two principal mountain ranges, is a series of broad, fertile plains. There is a small coastal plain along the shores of the Mediterranean. The principal limitation is lack of water. Utilization of water for irrigation has increased ten-fold, but the potential from the Euphrates and Orontes River systems is much greater.

162 212 The population is estimated roughly at 3.5 million, of which three-fourths are rural and directly dependent on agriculture.[28] In the time of the ancients these lands supported two or three times as many people. Most of the people today are Moslems. Although more emphasis now is being placed on education, about three-fourths of the people are still illiterate.

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[27] *Statesman's Yearbook, 1949*, p. 1348.

[28] *Report of the United States-Syria Agricultural Mission*, United States Department of Agriculture, 1947, p. 7.

29:Dunn S-4 (1952)1952 MI Middle East
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651 30 per cent; and on garments, from 40 to 50 per cent. Syria, along with many Middle Eastern countries, has retained a war-time regulation assessing double duty on goods from Japan, a former enemy.

AGRICULTURE

● 311
241 Accurate figures on the present land use or possible uses are lacking. Government estimates on the area under cultivation and acreage are considered unreliable by the United States Agricultural Attache, and he suggests using them only as general indications of trends.

These rough calculations indicate that about 45 per cent of the country—approximately 20 million acres—is suitable for agricultural purposes, including grasslands. The rest is waste land. About half of the 20 million acres are thought to be suitable for cultivation, out of which between 4 and 5 million acres are estimated to be in crops and orchards at the present time.

At least three-fourths of the crop land appears to be devoted to cereals, primarily wheat and barley. Cotton has been expanded in recent years to about 10 per cent of the planted land. Dry legumes, vegetables and other minor food crops, as well as several less important industrial crops such as tobacco, hemp, and silk cocoons, are also produced.

Orchards and vineyards are significant in Syrian agriculture; and, although they have not been fully developed, occupy possibly 10 per cent of the cultivated land. Olives, citrus, walnuts, and pistachios are commonly grown.

Because of the lack of moisture, inadequate rotation, and insufficient use of fertilizer, a large part of the cultivated land is fallowed each year. A

—*Photo Courtesy of Near East Foundation*

Near East Foundation officials inspect one of their experimental cotton fields near Damascus which produced over a bale and a half to the acre.

29:Dunn S-4 (1952)1952 MI Middle East

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United States mission estimated that 50 per cent of the land was in fallow 311
during 1948.[31] Increased irrigation and high prices for agricultural commodities have reduced significantly the fallow in the past few years, and the percentage may be less now. 241

PRODUCTION

Syria is normally self-sufficient in most foods. In fact, the country exports fresh and dried fruits, lentils and other legumes, tobacco, wool, butter, hides, and meat. Occasional poor harvests make it necessary to import food grains. 433

The greatest deficiency is in rice, which has been displaced by cotton in recent years to such an extent that almost all of the country's requirements must be imported. Last year's bad cotton crop may prompt farmers to revert to rice and, if so, this will reduce the deficiency.

Government figures indicate that production of food has not kept pace 433
with the expansion in population and that the per capita food supply and individual calorie intake are both declining.[32] These conclusions are based on highly conjectural statistics and are in conflict with opinions of the United States Agricultural Attache and Syrian officials who are intimately acquainted with the country's agricultural problems. These observers believe there has been no real decline in food consumption, except possibly for short periods of time. Certainly there is no shortage now, and the bumper cereal crop in 1952 should enable the country to fill domestic needs and export at least 30 per cent of its wheat and possibly 50 per cent of its barley. 146

The daily diet consists largely of starches, it is true, but this is due more to habit than anything else. The resources of the country are ample to permit a much more balanced diet. 262

PRODUCTIVITY

Syrian agriculture often is characterized by the low productivity of the 461
agricultural worker. It is obvious that a great many more people are used on 241
each acre of land than is necessary. The low agricultural income is reflected 511
in the obvious poverty of the people. Yet, comparisons with other countries, and even detailed calculations, are of questionable value due to the unreliability of the statistics.

Government reports on average yields also are open to question. Official 241
figures show that wheat yields have dropped sharply, while cotton yields have tended upward, except for the extremely bad year in 1951-52. They also show very wide fluctuation. Experienced observers point out that the yields are especially questionable because both acreage and production figures are not reliable. On the basis of conversations with producers in various sections, it is apparent that yields are normally fairly high and that they fluctuate, depending on water availability and on insect devastation.

POTENTIALITIES

A number of missions which have studied the possibilities of agricultural development in Syria, especially in the last five or six years, all mention the

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[31] *Activities of FAO, 1950-52*, Food and Agriculture Organization of the United Nations, 1952, p. 58.

[32] *Development of Food and Agricultural Resources in the Near East*, Food and Agriculture Organization of the United Nations, Rome, November, 1951.

29:Dunn S-4 (1952)1952 Ml Middle East

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241 possibilities for expanding the total area under cultivation, for improving and increasing irrigation, and for increasing productivity through research and education. They also point to needed improvements in agricultural equipment, in agricultural credit, and in the land tenure system.

241 311 Although estimates vary as to the amount of new land which can be brought into cultivation, all agree that it is possible to double the present planted acreage. Cultivation could be extended in some dry-land areas with improved rotation and fertilization, but in most cases new land can be brought into cultivation only by extending irrigation.

IRRIGATION

241 312 Information which the United States Legation at Damascus has prepared from reports of the Syrian Ministry of Public Works indicates a total of about 2.4 million acres under irrigation at the present time, of which approximately 60 per cent is from gravity flow and the remainder from pumps of various sorts. Some of the Ministry's data are said to be based on actual surveys, some on interviews, and some simply on estimates. This 2.4 million

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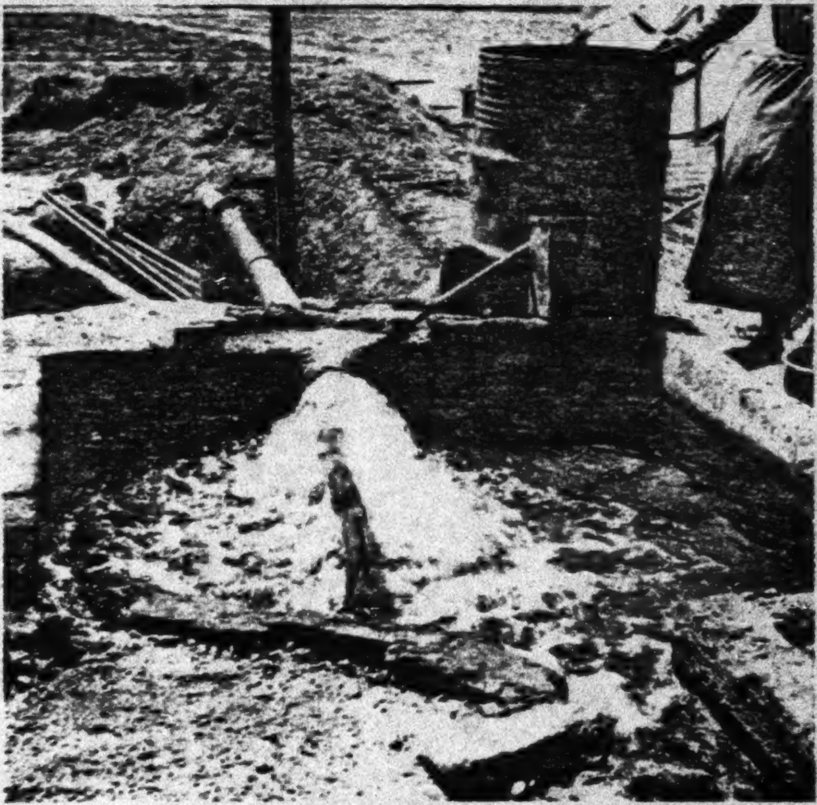

The most common system of irrigation in the new cotton areas of the Jezira is to draw water like this from streams with pumps powered by diesel engines. The number of pumps in Syria has doubled since 1950.

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ment, and the investors, inexperienced in farming and unequipped to deal 454
with adverse weather, lack of water, and heavy insect infestation, obtained
low yields. Many lost their own capital and borrowed money. 241

Some investors, who realize that their only chance of coming out on their original investment is to continue their operations and even to make additional investments, plan to expand operations. Future investment naturally will depend on current earnings which will be determined by production and world market prices.

Farmers who may be in a position to continue investing in agricultural development out of their own capital, however, will be a small minority. The need for credit will be great.

Limited credit usually is given to tenants by the landlords during the 452
spring and summer, but most farmers need more. In the past, additional
production credit has been extended largely by the merchants and money- 426
lenders at rates from 15 to 50 per cent annually. A few large landlords
borrow money from banks at rates as low as 7 and 8 per cent, but only against
excellent securities. Interest rates to the tenants who have less collateral
are usually higher. Merchants are discontinuing the practice of buying cotton [455]
before the crop is made at prices from 50 to 70 per cent of the future market
price because in many cases the farmers do not make enough cotton to fulfill
their contract.

The government has sought to meet the need for credit by creating an 652
agricultural bank, but the capital is limited and size and volume of loans are
small. In 1951, for instance, the bank loaned a total of only $5 million to 452
57,000 cultivators. Private groups are said to have loaned as much on cotton
in the Jezira alone.

LAND TENURE

Land available for cultivation is plentiful, but confused titles, excessive 423
concentration of ownership, and insufficient or restricted use of the state
domains hamper development.

The government has a major interest in agriculture and the tenure 423
problem. The Ministry of Justice reports that 23 per cent of the farm land
is owned by the state and in some of the larger farming areas the percentage 471
runs as high as 69 per cent. There is also a heavy concentration of land in 241
large units owned and operated by a few wealthy landlords, with 29 per cent
of the farm land in farms over 250 acres. Most of the large farms in the old [427]
agricultural areas are operated on a tenancy system, but many of the farms
now being established in the new areas of the Jezira are operated on a day- [464]
wage basis with mechanical equipment. This is especially true of wheat farms.
A strong middle class of farmers owns about one-third of the land in farms
from 25 to 250 acres, and many of them cultivate their land with the help of
tenants. Only 15 per cent of the farm land is owned in lots less than 25 acres.

In an effort to encourage landownership, stability of tenure, and an 425
interest in improvement of the land, a law was passed recently under which
state lands are to be sold on long-term, easy-payment plans to landless 471
farmers with a limit of 123 acres to a farmer. The plan was designed 311
especially to settle the nomads. The principal areas concerned are the state [166]
domains in the valleys of the Euphrates and Kabur Rivers, which were un-

29:Dunn S-4 (1952)1952 Ml Middle East
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—Photo Courtesy of Cotton Trade Journal

All the cotton in the Aleppo region is ginned at this modern ginning center in Aleppo. Large gins (some have 10 saw gin stands) are located or are under construction on each corner of the square. Buildings are elaborate and usually cost about twice as much as the machinery. The grounds are landscaped like a campus.

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inhabited for centuries until a few years ago when farmers from the cities began developing them with mechanical equipment. Large landlords from Aleppo spent millions of dollars installing pumps, building roads, and in other ways developing these lands.

Although occupancy rights have been recognized for years, various government officials with whom the matter was discussed were strong in their views that these newcomers are squatters and should be evicted. They want to distribute the land among the landless peasants. The landlords who have made investments here are just as determined that they will not be evicted. The political strength of the landlords is given generally as the reason for the statement recently made by the head of the government to the effect that the new law will be studied for revision.

While the question of eviction is being debated, the government is proceeding to parcel out other public domains in small units to landless peasants. As this program is expanded, the large landowners are becoming more and more concerned for fear their own properties will be expropriated and subdivided, as has been done in neighboring countries.

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This dispute over the use of public land illustrates the struggle for power going on in Syria today between government bureaucrats and wealthy landlords. The government on one hand is attempting to force changes in all phases of the economy through its various control programs. These changes, however, are strongly resisted by the landowners who prefer to be free from regulations and regimentation. The outcome of this struggle may have a material bearing on the trend in agriculture for the next several years.

SYRIA

(Visited 13 - 19 January 1953)

131 58. The Republic of Syria covers approximately 55,700 square miles and has an
162 estimated population of 2,900,000 (including nomads 3,200,000), Arabic speaking and
mainly Moslems. There is at present no problem of over-population. Much of the
132 country is at present rain-fed dry land.

● 311 The total cultivable area is 12,500,000 acres of which about 1/3 is
under cultivation. Many irrigation projects have been started or are in
312 contemplation. The systems of irrigation do not expose the peasantry in the same
degree as in Egypt to bilharzia and the climate is invigorating for much of the year.

241 59. Agriculture and cattle breeding are the principal industries. A recent
231 government decree laid down that land not registered must be put at the disposal of
the State, who will sell it at a low price in lots of 50 hectares. The land which i
thus to be acquired is State Domain which at various times has been appropriated and
cultivated by the big land-owning families. The areas involved are said to be
2.3 million hectares of cultivable land and 3.6 million hectares of grazing.

428 The land which is to be redistributed must be exploited within 2 years from the
185 date of purchase and must not be resold, although it may be mortgaged to the
Agricultural Bank. The Bank will give financial help for the purchase and
development of the land.

60. The scheme has been criticized on the ground that in order to avoid a fall in production from the large estates now being cultivated through private capital and a stop being put to the further exploitation of hitherto uncultivated land, the Government will require to make provision for the supply of capital and expert advic to new peasant owners. A scheme for the drainage of a considerable tract in the Jezirah area, known as the Ghab Swamp, is being drawn up as a result of a survey of the area by a foreign firm of engineers. This will also require large capital expenditure.

61. The financing of land redistribution schemes is outside the scope of our missio as is the furnishing of expert advice on new agricultural methods for the more successful exploitation of small estates, except in so far as agricultural extensio services can be combined with health and other services appropriate to community welfare organization.

62. The possibility of the Syrian Government's applying for outside technical assistance for any of the above-mentioned purposes is a matter of high policy which we did not feel justified in discussing with the officials whom we had occasion to meet during our visit to Damascus.

617 63. Dr. Joukhadar, the Director of Labour and Social Affairs, gave the mission the
text of a project law (Appendix IV) that had been drafted in his department for
657 establishing rural community centres, somewhat on the lines of those that exist in
Egypt.

185 64. The Decree contemplates that in each province a model centre be established to
provide all requisite economic, health, cultural, social and administrative service
this being "the only institution that can undertake all the responsibilities and
guarantee the success of a programme of village improvement which does not involve

63:Simmons et al G-6 (1941-1951) 1964
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separate the narrow coastal plain from the Orontes river valley and the plateau region of the interior. Farther south, the Anti-Lebanon range rises to peaks of almost 9,000 feet on the Lebanese frontier, and spreads in spurs eastward toward the Syrian Desert. The inland slopes are mainly barren steppe, which merges with the desert, except where oases provide stretches of cultivable land. In the southwest, the lofty peaks of Mount Hermon descend to the fertile Hauran plateau, which receives the moisture-laden winds from the Mediterranean across the gap of the Esdraelon plains. 133

With the exception of the Euphrates, the rivers of Syria are relatively short, but all are vital to the agricultural life of the country. The Euphrates, from its source in the mountains of eastern Turkey, flows diagonally for 420 miles across the northern plateau toward the Iraqi border. The triangular-shaped sector cut off by the river is largely undulating steppe, but extensive [311] areas of irrigable land are found along its banks and those of the tributary systems of the Khabour and the Belikh. The northeast corner, watered by the Khabour River and its tributaries, comprises the region known as the Al Jazira, which was formerly an important granary of the Roman Empire. The Orontes River rises in the Bekaa valley in Lebanon and flows northward across the plains of Hama and Homs and through the Ghab marshes before turning west to the Mediterranean in Turkish territory. The Barada and its tributaries, which are fed by subterranean springs in gorgelike valleys on the eastern slopes of the Anti-Lebanon mountains, water the Al Ghouta, an oasis

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69:Simmons et al G-5 (1941-1951) 1964
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The infant mortality is not known, but 165
local observers believe that it is at least 250 per 1,000 live births. In many rural villages the mortality among children under 5 years of age probably reaches 40 to 50 per cent. Discrepancies in reporting are exaggerated by the fact that certification of birth is not required for infants dying during the first year of life. The official infant mortality rate for 1948 was 47.6 per 1,000 births for the country, but 75 per 1,000 births in the city of Damascus. Among almost 15,500 deaths registered in 1949, over 21 per cent were of infants under 1 year and about 35 per cent of children under 5 years of age.

SOCIAL ECONOMY

Agriculture is the basis of Syria's economy. 433
Over two thirds of the people are 241
dependent upon the land, and, in consideration of the paucity of other natural resources, its full utilization is a problem of primary concern to the welfare of the country. Except in limited portions of the north- 132
western and the northeastern provinces, the 241
rainfall is deficient and erratic, and the expansion of agriculture is contingent upon the development of irrigation and more efficient methods of production. Estimates of 311
the amount of cultivable land range from 241
10 to 21 million acres—from less than one quarter to almost one half of the total land area. A similar disparity is noted between the figures quoted for the acreage now under cultivation, but all sources agree that less than one half of the potentially arable lands are planted in crops. Most observers 311
believe that the land suitable for agriculture approximates 12 to 14 million acres, while the area under cultivation is between 5 and 6 million acres. Roughly 10 to 20 per cent of the tilled land is irrigated at present, but it has been shown that the farm acreage could be more than doubled by increased irrigation, associated with controlled settlement, in the Orontes, the Khabour and the Euphrates river valleys.

Foremost among the factors which impede 421
the promotion and the modernization

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of the Muzeirib swamp lands along the 312
headwaters of the Yarmuk River. The resettlement program in the Euphrates and
the Khabour river basins, which is controlled by a separate governmental organization, calls for the irrigation of extensive
areas. Between 20,000 and 30,000 acres had 311
been opened up through irrigation in 1951. 312
Work on the drainage and the irrigation of
the Ghab marshes, covering about 100,000
acres in the Orontes river valley northwest
of Hama, was started in 1952.

WASTE DISPOSAL

Sewerage systems are available in all the 314
larger cities. The sewage is not treated, however, and the effluent is usually discharged into adjacent watercourses or upon the land for irrigation purposes. In unsewered sections, cesspools are employed in connection with the houses. The methods of sewage disposal are universally primitive in the rural districts. In villages near the larger cities, pit or shallow latrines are frequently found in the individual compounds or provided on a community basis. In the more remote areas and in the poorer villages, pollution of the soil is the general practice. The use of night soil for fertilizer is common in the agricultural communities.

FAUNA AND FLORA

Arthropoda. MOSQUITOES. Nine species 136
of anopheline mosquitoes have been re- 164
ported from Syria, three of which—*Anopheles superpictus, A. sacharovi* (= *A. elutus*) and *A. claviger* (= *A. bifurcatus*)—are of major importance in the transmission of malaria. *A. pulcherrimus, A. hyrcanus, A. algeriensis* and *A. sergenti* are of minor and local significance, while *A. marteri* and *A. multicolor* are rare.

A. superpictus is widely distributed: It is 136
a prominent vector of malaria in the coastal plains, in the northwestern highland districts and in the river valleys, but is of secondary interest in the Damascus region. It breeds along the margins of the larger rivers and on the edges of mountain streams

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453
651 The banking system was developed, but this improvement was partly offset by the shocks caused by successive devaluations of the franc, to which the Syrian pound was linked on an exchange standard. Slight reforms were introduced in the fiscal system, and steps were taken to protect industry. Until 1924, the Ottoman tariff of 11 per cent on almost all goods had remained in force. In 1924, a distinction was made between members of the League of Nations and the United States, goods from which were subjected to the "normal" tariff of 15 per cent, and other countries, 1/ which paid the "maximum" of 30 per cent; industrial machinery was exempted from customs duties. In 1926, the normal rate was raised to 25 per cent and the maximum to 50 per cent. In 1928, duties on raw materials and fuels were reduced. In the nineteen thirties, the general level of the tariff was lowered, but protection to Syrian industry was increased. As a result, several modern factories were established, and there was also some modernization of the handicrafts, by the installation of improved tools and power driven machinery. 2/

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[311] During the Second World War the large-scale expenditure of Allied troops raised incomes and prices, 3/ thus stimulating agricultural and industrial production, and the reduction of imports also aided local production. Owing to some mechanization, and to the fact that cultivation of marginal land became profitable, the area sown to major field crops increased by about 40 per cent between 1938 and 1945. This extension of acreage was, in some years, offset by a decline in yields, but the grain crop at the end of the war was distinctly greater than before the war. Industry expanded considerably, and communications were improved. The forced saving, due to inflation and the shift to profits, took the form of franc and sterling balances held by Syrian individuals and institutions.

1/ Owing to special arrangements, trade between Syria, Lebanon, Palestine and Transjordan was exempt from duties on either side.

2/ Both the decline in handicrafts and the rise of modern industry are reflected in the following figures, covering Syria and Lebanon, presented by the Mandatory Government to the League of Nations in 1937: in 1913, there were 310,000 handicraft workers; by 1937, the number had declined to 171,000, most of whom were in Syria; on the other hand, there were 33,000 workers in "modern industries", of whom a little over 40 per cent were in Syria and the rest in Lebanon.

3/ From 1940 to 1944 inclusive, Allied expenditure in Lebanon and Syria totalled £76 million (sterling). In 1939 to 1945, inclusive, Lebanon and Syria had a surplus of 637 million Lebanese-Syrian pounds on current account. The index number of retail prices of twenty-two essential commodities in Damascus rose from 100 in 1938 to 831 in 1945.

SYRIA MDI

Post-War Period, 1945 to 1954

Agriculture

During the post-war period both agricultural and industrial output increased rapidly, and although population growth was fairly large there seems little doubt that per capita output rose significantly. 1/ Similarly, although data are very scanty, there is evidence of an increase in consumption and an improvement in the standard of living. 2/ 433 511

In agriculture, the increase in output was achieved by extending the acreage of cereals and greatly expanding that of cotton; there was also some improvement in methods of cultivation, especially in cotton. The total cultivated area increased from 2,314,000 hectares in 1946/47 to 3,668,000 in 1952/53. 3/ the irrigated area increased more rapidly, from 237,000 hectares 4/ to 400,000 hectares. 5/ The proportion of fallow land seems to have remained unchanged, at one-third of the total. It may therefore be taken that the crop area increased by about 60 per cent. 241 311

The increase in the irrigated area was achieved partly by the irrigation projects discussed below, partly by installation by farmers of pumps drawing on river or underground water. In 1953, there were 7,500 pumps, of which 40 per cent were for river water and 60 per cent for underground water. The extension of rainfed crops was achieved mainly by mechanization. In 1953 there were 1,200 tractors, compared with 860 in 1951 and about 300 in 1948; 1,397 tractor ploughs, compared 312 241

1/ National income is estimated to have risen from 1,250 million Syrian pounds in 1950 to £1,410 million in 1953; during that period, the index of wholesale prices of raw materials in Damascus (1949 = 100) fell from 111 to 110. See Sami Wafa el Dajani, "al Dakhl al Qaumi fi Suria", Al Abhath, (Beirut, December 1953); Ministry of Agriculture, A Report on the Development of Agricultural Production and Marketing in Syria, and Ministry of National Economy, Statistical Abstract of Syria, 1953 (Damascus, 1954). A breakdown for 1950 shows that 44 per cent of the total was contributed by agriculture and animal husbandry, 13 per cent by commerce, 10 per cent by industry, 9 per cent by transport and communications, 7 per cent by government services, 5 per cent by rents and 11 per cent by other activities (Dajani, op.cit.).

2/ Per capita annual consumption of cotton, woollen and rayon fibres is estimated to have risen from 4.2 kilogrammes in 1951 to 4.6 kilogrammes in 1952 and 5.1 in 1953; the figure for Lebanon and Syria combined had previously risen from 3.9 kilogrammes in 1948 to 4.8 kilogrammes in 1950 (Food and Agriculture Organization, Monthly Bulletin of Agricultural Economics and Statistics, Rome, January 1955). Output of tobacco products increased from an average of 1,638 tons in 1945-47 to 2,075 tons in 1950, 2,448 in 1952 and 2,659 in 1953.

3/ Bureau des documentations Syriennes et Arabes, La Syrie économique, 1953 (Damascus, 1954), mimeographed.

4/ Sir Alexander Gibb, Economic Development of Syria (London, 1947).

5/ Of these, some 250,000 hectares were irrigated by flow and 150,000 hectares by pumps.

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Latakia, is to irrigate 5,000 hectares at a cost of £S 2.6 million; the scheme 652
should be completed by the end of 1955. Projects under study include a scheme on 241
the Barada River, near Damascus, to irrigate 5,000 hectares and provide a capacity 312
of 1[illegible],000 kilowatts, at a total estimated cost of £S 12 million; the Yusef Pasha dam, on the Euphrates, which would extend irrigation by 100,000 hectares and provide a capacity of [illegible]5,000 kilowatts, at an estimated cost of £S 150 million; and a small multi-purpose project on the Kebir River, north of Latakia.

The most important project under way is that on the Ghab, on the Orontes north of Hama. The objective is to reclaim by drainage some 26,000 hectares of land and to irrigate by gravity a total area of 65,000 hectares, 43,000 of which had not been irrigated before.

The project also includes the building of four hydroelectric stations, with 652
a capacity of 20,600 kilowatts and an estimated annual output of 80 million 312
kilowatt hours; a thermic generator with a capacity of 9,500 kilowatts; and
700 kilometres of roads. Total costs, exclusive of electric installations, are 377
estimated at £S 140 million, of which £S 45 million are for drainage,
£S 55 million for irrigation and £S 37 million for roads and bridges. The 241
hydroelectric plants are estimated to cost another £S 17 million and the thermic plant £S 7.6 million. The Government expects to recover its outlay on the scheme by selling, for an estimated £S 150 million, 30,000 hectares of land which it owns in the region and by levying a small irrigation fee. The scheme is expected to raise gross agricultural income by £S 91 million and net income by £S 70 million. Completion is scheduled for 1960. 1/

The Ghab Project Administration was established in 1952, and in 1953 it was authorized to borrow £S 25 million from the Banque de Syrie et du Liban, at 2 per cent interest. A firm of Netherlands consultants, hired by the Government to prepare an over-all plan for the Ghab, presented its report in May 1953. In September 1953 a contract was awarded to a Yugoslav firm for the deepening of the Orontes channel, at a cost of £S 3.3 million. It is expected that contracts for other parts of the project will be awarded soon.

The total area of irrigation projects recently completed or approaching completion is 57,000 hectares and that of schemes planned but not yet begun is 278,000. The total irrigable area, including that at present irrigated, is estimated at 750,000 hectares. 2/

The total cultivable area in Syria is put at 5 million hectares, of which 311
one million are at present not cultivated, while 1.6 million are left fallow each year under the prevailing triennial rotation. Present plans call for intensifying production by using leguminous crops to replace the period of fallow,

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1/ "The Ghab Project", by Abdel Basit Khatib, Director General of the Ghab Project Administration (mimeographed document, Damascus, October 25, 1954). See also Abdel Basit Khatib *Mashru al Ghab* (Damascus, October 1953).

2/ Subhi Mazloum, "Les Irrigations en Syrie", *Annual Bulletin* of the International Commission on Irrigation and Drainage, 1953, and "Al mashari al maia fi Suria", *Al Hayat*, 31 July 1954 (Beirut).

311 by planting forage crops, and by increasing the use of fertilizers and improved seeds. 1/ The Government is planning to increase its distribution of selected wheat and other seeds, to expand its agricultural schools and its student missions to foreign universities, and to intensify the activity of its experimental stations and its extension services.

654
241 Among the obstacles to expansion of output are high production costs, owing to shortage of labour in certain areas and to high fuel prices and maintenance charges for machinery, and also high transport costs. 2/ Various measures are being taken to improve communications, provide storage and reduce the purchase and operating costs of agricultural machinery. 3/

241
423 Another great obstacle to agricultural development is the system of land tenure. In 1947 it was officially estimated that of 6.1 million hectares of privately owned land, 38 per cent was in holdings of over 100 hectares, 43 per cent in holdings of 10 to 99 hectares and 19 per cent in holdings of under 10 hectares. 4/ The greater part of large holdings is rented on short leases to sharecroppers, whose poverty and insecurity make it difficult for them to improve methods and increase output. The Government is preparing a law regulating relations between landlords and tenants and between farmers and labourers. 5/ In 1952 and 1953 decrees were passed regarding the distribution of lands in the State domain to cultivators with small farms and the expropriation of occupied areas on such land in excess of a certain figure. 6/ This land was to be available for cultivation by farmers, in lots of 10 hectares of irrigated or 50 hectares of non-irrigated land, on very generous terms. A start has been made in distributing land in El Jezira to landless farmers and nomads; by March 1954 some 25,000 hectares had been distributed.

1/ It is estimated that the yield of wheat could be fairly easily raised by 60 to 70 per cent and that of barley by 50 to 60 per cent. The discrepancy between the average yield of olives, 20 kilogrammes per tree, and that of high yielding trees, 50 to 60 kilogrammes, also points to possibilities in that field; it is, moreover, believed that the average oil content of olives could be raised from 11.5 per cent to 15 per cent (unpublished study by the Ministry of National Economy).

2/ In 1953, transport costs of a ton of barley from El Jezira to Latakia were £S 50, a figure equal to the cost of production. High transport costs also greatly raise the price of petroleum products used in agriculture.

3/ Ministry of Agriculture, "A Report on the Development of Agricultural Production and Marketing in Syria" (mimeographed document, Damascus, 1954).

4/ By the end of 1954 half the area of Syria had been surveyed; the corresponding figures within that area were 49 per cent, 38 per cent and 13 per cent. Conditions vary greatly: in Damascus, Latakia, Jebal Druze and Hauran provinces, small and medium properties prevail; in the Aleppo, Homs, Hama, Jezira and Euphrates provinces large properties and State domain account for the greater part of the land.

5/ Ministry of Agriculture, op cit.

6/ This was fixed, in the 1952 decree, at 150 hectares in the Jezira, Euphrates and desert areas and 50 hectares in other parts of Syria. In 1953 the limit was raised to 200 hectares, irrespective of location.